MIYAMA

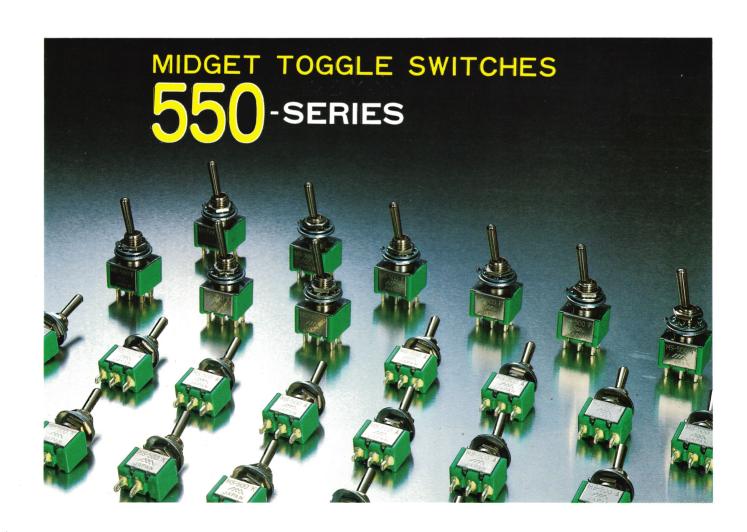
ELECTRONIC PARTS 1991



MIYAMA ELECTRIC CO., LTD.

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PRODUCT PARTS NO. LIST

SWITCH GROUP

Fat		_						_			
PARTS NO.	TYPE	Р	PARTS NO.	TYPE	Р	PARTS NO.	TYPE	Р	PARTS NO.	TYPE	P
DS-004 CAT.	ROCKER	34	DS-123	TOGGLE	9	DS-228	LEVER	23	MS-328	TOGGLE	14
NO.3A1	"	"	DS-124	"	10	DS-229	"	"	MS-329	"	"
DS-004E	"	"	DS-125	ROCKER	36	DS-230	"	11	MS-330	"	"
DS-005	JI .	"	DS-131	PUSH BUTTON (M)	26	DS-231	11 .	"	MS-331	"	"
CAT. NO.3B2	n n	"	DS-139	PUSH BUTTON (A)	"	DS-232	"	"	MS-332	LEVER	15
DS-005E	"	"	CAT. NO.63	"	"	SS-232	KEY LOCK	55	MS-333	"	"
DS-008	PUSH BUTTON (M)	25	DS-140	TOGGLE	10	DS-233	LEVER	23	MS-334	"	"
MS-016	"	"	CAT. NO.69	ıı,	"	SS-233	KEY LOCK	55	MS-335	"	"
DS-023	ROCKER	35	SS-160	PUSH BUTTON (M)	26	DS-234	LEVER	23	MS-336	"	"
DS-026	ILLUMINATED ROCKER	46	MS-165	TOGGLE	10	DS-235	TOGGLE	12	MS-337	<i>"</i>	"
MS-027	PUSH BUTTON (A)	25	MS-166	"	"	DS-236	11	"	MS-338	ıı .	"
MS-028	"	"	MS-167	n,	"	DS-237	11	"	MS-339	"	"
MS-029	PUSH BUTTON (M)	"	MS-168	"	"	DS-238	"	"	MS-340	TOGGLE	"
MS-030	"	"	MS-169	"	"	DS-239	"	"	MS-341	n n	"
DS-038	LEVER	22	MS-172E	"	11	MS-240	"	11	MS-342	"	"
CAT. NO.32-2A	"	"	MS-173E	"	"	MS-241	"	"	MS-343	"	"
DS-039	"	"	MS-174E	"	"	MS-242	"	11	MS-344	"	16
DS-050	"	"	MS-175E	"	"	MS-243	"	"	MS-345	"	"
DS-051	"	"	MS-176E	"	"	MS-244	"	"	MS-351	ROCKER	"
DS-054	"	"	MS-177E	"	"	MS-245	"	11	MS-351-W2-P	"	"
DS-055	"	"				MS-246	"	11	MS-351-W2-S	"	"
DS-056	"	"				MS-247	"	"	MS-352	LEVER	"
DS-057	"	"	SS-183	KEY LOCK	55	MS-248	"	"	MS-373	"	24
DS-059	ROCKER	35	SS-184	"	"	DS-249	PUSH BUTTON (A)	28	MS-374	"	"
DS-062	n,	36	MS-184E	TOGGLE	11	DS-250	"	"	MS-375	"	"
DS-063	"	"	MS-185E	"	"	MS-251	"	"	DS-379	ROCKER	37
DS-064	"	"	MS-186E	"	"	DS-256	"	"	DS-380	"	"
DS-065	"	"	DS-193	PUSH BUTTON (M)	27	DS-257	PUSH BUTTON (M)	"	MS-381	"	"
DS-068	"	"	DS-194	"	"	DS-274	LEVER	23	DS-385	,,	"
DS-069	"	"	DS-195	PUSH BUTTON (A)	"	DS-275	"	"	DS-386	"	"
DS-070	LEVER	23	DS-196	"	"	DS-282	PUSH BUTTON (A)	28	DS-388	"	"
DS-071	"	"	MS-197	"	"	DS-283	PUSH BUTTON (M)	"	DS-389	"	"
DS-072	"	"	MS-198	"	"	MS-284	ROCKER	36	DS-391	LEVER	24
DS-073	"	"	MS-199	PUSH BUTTON (M)	"	MS-284-A-B	"	"	DS-392	"	"
MS-078	ILLUMINATED PUSH BUTTON	40	MS-200	TOGGLE	48~ 50	MS-284-C-D	"	37	MS-393	"	"
MS-080	"	"	SS-200	PUSH BUTTON		DS-299	PUSH BUTTON (M)	29	DS-394	"	"
DS-102	PUSH BUTTON (M)	26	DS-225	LEVER	23	MS-300	"	"	DS-395	"	"
DS-122	TOGGLE	9	DS-226	"	"	DS-322A	ILLUMINATED ROCKER	46	DS-396	"	"
DS-122E	"	"	DS-227	"	"	DS-323	nocker	"	DS-397	"	"
		\dashv				DS-324	"	47	DS-398	"	"
						DS-325	"	"	DS-399	"	"
		\dashv						\dashv			+
		\dashv			\dashv			\dashv			+

PRODUCT PARTS NO. LIST

SWITCH & INDICATOR LIGHT GROUP

PARTS NO.	TYPE	Р	PARTS NO.	TYPE	Р	PARTS NO.	TYPE	Р	IND	ICATOR LIGHT	
MS-402	PUSH BUTTON (M)	29	DS-464	PUSH BUTTON (M)	31	DS-660	PUSH BUTTON (M)	32		HOLDER	
DS403	ROCKER	38	DS-465	"	"	DS-661	ILLUMINATED PUSH BUTTON	41	PARTS NO.	TYPE	Р
DS-404	"	"	DS-466	"	"	MS-661	"	"	MP-007	INCANDES- CENT LAMP	56
DS-405	"	"	DS-467	"	"	DS-670	PUSH BUTTON	33	MP-030	NEON LAMP	"
DS-406	"	"	DS-468	"	"	DS-680	<i>y</i> .	11	MP-036	"	"
DS-407	"	"	DS-469	"	"	DS-681	"	"	MP-040	LED	57
DS-408	PÚSH BUTTON (A)	29	DS-470	"	"	DS-700	ILLUMINATED PUSH BUTTON	42	MP-041	"	"
DS-409	"	"	DS-471	"	"	DS-710	"	"	MP-042	"	"
DS-410	"	"	DS-472	"	"	MS-720	"	43	MP-043	ıı .	"
DS-412	"	"	DS-473	"	"	DS-721	"	44	MP-050	"	"
DS-413	LLUMINATED ROCKER	47	DS-474	"	"	MS-730	"	43	MP-051	11	58
DS-414	ILLUMINATED TOGGLE	40	DS-475	"	"	DS-731	"	44	MP-052	11	57
DS-415	"	"	DS-480	PUSH BUTTON (A)	32	DS-740	with FUSE HOLDER	54	MP-053	11	58
DS-416	"	"	DS-481	PUSH BUTTON (M)	"	DS-741	II II	"	MP-054	11	57
DS-417	"	"	MS-500□-B	TOGGLE	18	DS-742	ILLUMINATED PUSH BUTTON	"	MP-055	"	58
DS-430	PUSH BUTTON (M)	30	MS-500□-BC	ı,	"	DS-743	# ## ## ## ## ## ## ## ## ## ## ## ## #	"	MP-056	11	57
DS-431	"	"	MS-500□-F	LEVER	"	DS-750	with FUSE HOLDER	"	MP-057	"	58
DS-432	"	"	MS-500□-MF	"	"	DS-751	II II	"	MP-058	11	"
DS-435	PUSH BUTTON (A)	"	MS-500□-PL	TOGGLE	"	DS-752	ILLUMINATED	"	MP-059	<i>II</i>	"
DS-435E	"	"	MS-500□-CL	"	"	DS-753	PUSH BUTTON	"	MP-060	11	"
DS-436	PUSH BUTTON (M)	"	MS-500□-L	"	19	DS-760	KEY LOCK	55	MP-062	"	"
DS-436E	//	"	MS-500□-ML	"	"	DS-761	"	"	MP-063]]	- ,,
DS-437	PUSH BUTTON (A)	31	MS-500M-B	"	"	DS-770	"		MP-068	<i>II</i>	59
DS-437E	"	"	MS-500N-B	"	"	DS-771	"	"	MP-069	<i>II</i>	111
DS-438	PUSH BUTTON (M)	"	MS-500P-B	"	"	DS-775	"	"	MP-070]]	- ,,
DS-438E	<i>11</i>	"	MS-500R-B	"	"	DS-776	"	"	MP-071	<i>II</i>	1)
DS-450	PUSH BUTTON (A)	"	MS-500-B-VT	"	"	MS-800	ILLUMINATED	44	MP-072	"	1)
DS-451	"	"	MS-500B-RI	"	"	DS-801	PUSH BUTTON	45	MP-073	11	- ,,
DS-452	"	"	MS-500W2-P	ROCKER	"	DS-802	"	"	MP-074	JJ.	"
DS-453	"	"	MS-500W2-S	"	"	MS-810	PUSH BUTTON	44	MP-075	"	
DS-454	"	"	MS-550	TOGGLE	20	MS-820	DIP. SLIDE	52	MP-076]]	1,,
DS-455	. "	"	MS-600	"	"	MS-830-10	DIP. ROTARY	53	MP-077	11	"
DS-456	"	"	MS-610	"	21	MS-830-16	"	"	MP-078	"	60
DS-457	"	"	MS-611	"	"	DS-850-□-S	ROCKER	39	MP-079	"	"
DS-458	"	"	MS-620	"	"	DS-850-□-F	"	"	MP-080]]	111
DS-459	"	-/ <u>'</u>	MS-621	"	22	DS-850-LED	ILLUMINATED	47	MP-081	"	"
DS-460	"	"	MS-630	ROCKER	38	20 000 222	ROCKER	-17	MP-082	"]]
DS-461	"	-"-	MS-640	II II	"			\vdash	MP-083	"	"
DS-462	"		MS-650	PUSH BUTTON (M)	51	<u> </u>		\vdash	1000		
DS-463	PUSH BUTTON (M)		MS-651	//	11						+-
100 400	TOUTION (IVI)		1010 001	"							
		-					A				
											\vdash
L											

PRODUCT PARTS NO. LIST

MECHANICAL COMPONENT PARTS GROUP

TEST CLIPS					
PARTS NO.	TYPE	Р			
MJ-001	IC CLIP	60			
MJ-018	IC CLIP	61			
MJ-019	11	"			
MJ-020	"	"			
MJ-026	DIP.IC CLIP	62			
MJ-032	IC CLIP	"			
MJ-033	"	"			

AC	AC OUTLEATS						
PARTS NO.	TYPE	Р					
MC-011	MOUNT TYPE	63					
MC-036	"	"					
MC-037	SNAPE-IN TYPE	//					

FU	SE HOLDER	
PARTS NO.	TYPE	Р
MF-007		64
CAT.NO.007		"
MF-008		"
CAT.NO.008		"
MF-009		"
CAT. NO.MF-009		"

Р	ĺ					
64						
"						
"						
"						
"						
"						



TOGO	BLE SWITCHES		P.
PARTS NO.	RATING	Р	D
DS-122	10A.250V.AC	9	D
DS-122E	10A.125V.AC 6A.250V.AC	"	Ν
DS-123	10A.250V.AC	"	Ν
DS-124	10A.125V.AC	10	Ν
DS-140	6A.250V.AC	"	Ν
CAT. NO.69	"	"	Μ
MS-165	10A.125V.AC	"	Ν
MS-166	"	"	Ν
MS-167	6A.125V.AC	"	Μ
MS-168	10A.125V.AC	"	Μ
MS-169	6A.125V.AC	"	
MS-172E	3A.125V.AC	11	
MS-173E	"	"	
MS-174E	"	"	Μ
MS-175E	"	"	Μ
MS-176E	"	"	М
MS-177E	"	"	Μ
MS-184E	"	"	Μ
MS-185E	"	"	Μ
MS-186E	"	"	М
MS-200	0.4V.A	48~ 50	М
DS-235	6A.250V.AC	12	М
DS-236	"	"	Μ
DS-237	"	"	М

	Oddel	- `
PARTS NO.	RATING	Р
DS-238	6A.250V.AC	12
DS-239	"	"
MS-240	3A.125V.AC	"
MS-241	"	"
MS-242	"	"
MS-243	"	"
MS-244	"	"
MS-245	"	"
MS-246	6A.125V.AC	11
MS-247	"	"
MS-248	"	"
N	M-SERIES	
MS-328	6A.125V.AC (3A.250V.AC)	14
MS-329	"	"
MS-330	"	"
MS-331	"	"
MS-332	"	15
MS-333	"	"
MS-334	"	"
MS-335	"	"
MS-336	"	"
MS-337	"	"
MS-338	"	"

PARTS NO.	RATING	Р
MS-339	6A.125V.AC (3A.250V.AC)	15
MS-340	"	"
MS-341	"	"
MS-342	"	"
MS-343	<i>"</i>	"
MS-344	"	16
MS-345	"	"
MS-351	"	"
MS-351-W2-P	6A.125V.AC	"
MS-351-W2-S	"	"
MS-352	6A.125V.AC (3A.250V.AC)	"
	,	
50	00-SERIES	
MS-500□-B	6A.125V.AC	18
MS-500□-BC	"	"
MS-500□-F	"	"
MS-500□-MF	"	"
MS-500□-PL	"	"
MS-500□-CL	"	"
MS-500□-L	"	19
MS-500□-ML	"	"
MS-500M-B	6A.125V.AC (3A.250V.AC)	"
MS-500N-B	"	//

PARTS NO.	RATING	Р			
MS-500R-B	6A.125V.AC (3A.250V.AC)	19			
MS-500-B-VT	6A.125V.AC	"			
MS-500-B-RI	"	"			
MS-500-W2-P	"	"			
MS-500-W2-S	"	"			
55	50-SERIES				
MS-550	3A.125V.AC (1A.250V.AC)	20			
600-SERIES					
MS-600	3A.125V.AC	20			
6	10-SERIES				
MS-610	0.3A.125V.AC	21			
6	11-SERIES				
MS-611	0.3A.125V.AC	21			
62	20-SERIES				
MS-620	0.3A.30V.DC	21			
621-SERIES					
MS-621	0.3A.30V.DC	22			

LEVER SWITCHES

LEVE	ER SWITCHES	
PARTS NO.	PATING	Р
DS-038	6A.250V.AC	22
CAT. NO.32-2A	"	"
DS-039	"	"
DS-050	"	"
DS-051	"	"
DS-054	"	"
DS-055	"	"
DS-056	"	"
DS-057	"	"
DS-070	3A.250V.AC	23
DS-071	"	"
DS-072	"	"
DS-073	"	"

PARTS NO.	PATING	Р
DS-225	6A.250V.AC	23
DS-226	"	"
DS-227	"	"
DS-228	"	"
DS-229	"	"
DS-230	"	"
DS-231	"	"
DS-232	"	"
DS-233	"	"
DS-234	"	"
DS-274	3A.125V.AC	"
DS-275	"	"
MS-332	6A.125V.AC 3A.250V.AC	15
MS-333	"	"

PARTS NO.	PATING	Р
MS-334	6A.125V.AC 3A.250V.AC	15
MS-335	"	"
MS-336	"	"
MS-337	"	"
MS-338	"	"
MS-339	"	"
MS-352	"	16
MS-373	6A.125V.AC	24
MS-374	"	"
MS-375	"	"
DS-391	"	"
DS-392	"	"
MS-393	11 '	. "
DS-394	"	"

PARTS NO.	PATING	Р
DS-395	6A.125V.AC	24
DS-396	"	"
DS-397	"	"
DS-398	"	"
DS-399	"	"
MS-500□-F	"	18
MS-500□-MF	"	"
MS-600□-F	3A.125V.AC	20

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PUSH BU	JTTON SWITCH	HES	PARTS NO.	RATING	Р	PARTS NO.	RATING	Р	PARTS NO.	RATING	Р
PARTS NO.	RATING	Р	MS-251	6A.125V.AC	28	DS-438E	3A.125V.AC 1A.250V.AC	31	DS-471	3A.125V.AC 1A.250V.AC	31
DS-008	10A.125V.AC 6A.250V.AC	25	DS-256	3A.125V.AC	"	DS-450	"	"	DS-472	"	"
MS-016	1A.125V.AC	"	DS-257	"	"	DS-451	"	"	DS-473	"	"
MS-027	3A.250V.AC	"	DS-282	"	"	DS-452	"	"	DS-474	"	"
MS-028	"	"	DS-283	"	"	DS-453	"	"	DS-475	"	"
MS-029	"	, //	DS-299	"	29	DS-454	"	"	DS-480	"	32
MS-030	"	"	MS-300	"	"	DS-455	"	"	DS-481	"	"
DS-102	1A.125V.AC	26	MS-402	0.5A.125V.AC	"	DS-456	"	"	MS-650	3A.125V.AC	51
DS-131	3A.125V.AC	"	DS-408	3A.125V.AC	"	DS-457	"	"	MS-651	0.4VA	"
DS-139	6A.250V.AC	"	DS-409	"	"	DS-458	"	"	DS-660	1A.125V.AC	32
CAT. NO.63	"	"	DS-410	"	"	DS-459	"	"	DS-670	3A.125V.AC 1A.250V.AC	33
SS-160	0.3A.125V.AC 0.15A.250V.AC	"	DS-412	"	"	DS-460	"	"	DS-680	15A.125V.AC 10A.250V.AC	"
DS-193	1A.125V.AC	27	DS-430	1A.125V.AC 0.5A.250V.AC	30	DS-461	"	"	DS-681	"	"
DS-194	"	"	DS-431	"	"	DS-462	"	"	MS-810	0.1A.30V.DC	44
DS-195	3A.125V.AC	"	DS-432	"	"	DS-463	"	"			
DS-196	"	"	DS-435	3A.125V.AC 1A.250V.AC	"	DS-464	"	"			
MS-197	"	"	DS-435E	"	"	DS-465	"	"			
MS-198	3A.250V.AC	"	DS-436	"	"	DS-466	"	"			
MS-199	"	"	DS-436E	"	"	DS-467	"	"			
SS-200	1A.12V.DC 1A.125V.AC	28	DS-437	"	31	DS-468	"	"			
DS-249	6A.125V.AC	"	DS-437E	"	"	DS-469	"	"			
DS-250	"	"	DS-438	"	"	DS-470	"	"			

ROCKER SWITCHES

ROCK	KER SWITCHES		PARTS NO.	RATING	Р	PARTS NO.	RATING	Р		
PARTS NO.	RATING	Р	DS-069	3A.250V.AC	36	DS-389	6A.125V.AC	37		
DS-004	6A.250V.AC	34	DS-125	10A.125V.AC 6A.250V.AC	"	DS-403	10A.125V.AC	38		
CAT. NO.3A1	"	"	MS-284	1A.125V.AC	"	DS-404	"	"		
DS-004E	10A.125V.AC 6A.250V.AC	"	MS-284-A-B	"	"	DS-405	"	"		
DS-005	6A.250V.AC	"	MS-284-C-D	"	37	DS-406	"	"		
CAT. NO.3B2	"	"	MS-351	6A.125V.AC (3A.250V.AC)	16	DS-407 *	"	"		
DS-005E	10A.125V.AC 6A.250V.AC	"	MS-351-W2-P	6A.125V.AC	"	MS-500-W2-P	6A.125V.AC	19		
DS-023	3A.125V.AC	35	MS-351-W2-S	"	"	MS-500-W2-S	"	"		
DS-059	5A.125V.AC 3A.250V.AC	"	DS-379	6A.125V.AC 3A.250V.AC	37	MS-630	3A.125V.AC	38		
DS-062	3A.250V.AC	36	DS-380	"	"	MS-640	0.3A.125V.AC	"		
DS-063	"	"	MS-381	"	"	DS-850-K-S	5A.125V.AC 3A.250V.AC	39		
DS-064	"	"	DS-385	"	"	DS-850-K-F ₁	"	"		
DS-065	"	"	DS-386	"	"	DS-850-S-F ₂	10A.250V.AC	"		
DS-068	"	"	DS-388	6A.125V.AC	37					

ILLUMINATED SWITCHES

	UMINATED SLE SWITCHES	5	PA
PARTS NO.	RATING	Р	DS
DS-414	3A.125V.AC	40	DS
DS-415	"	"	DS
DS-416	"	"	DS
DS-417	' 11	"	DS
			DS
			DS
			\vdash

	OMINA	
BOCK	ER SWITCHES	
PARTS NO.	RATING	Р
DS-026	10A.125V.AC	46
DS-322A	15A.125V.AC	"
DS-323	6A.250V.AC	"
DS-324	15A.125V.AC	47
DS-325	"	"
DS-413	10A.125V.AC	"
DS-850-LED	5A.125V.AC 3A.250V.AC	"

PUSH BL	JTTON SWITCH	IES
PARTS NO.	RATING	Р
MS-078	1A.125V.AC	40
MS-080	"	"
DS-661	"	41
MS-661	0.4VA (20mV-28V. 0.1mA-50mA)	"
DS-700	3A.125V.AC 1A.250V.AC	42
DS-710	"	"
MS-720	"	43
DS-721	10A.125V.AC 6A.250V.AC	44
MS-730	3A.125V.AC 1A.250V.AC	43
DS-731	10A.125V.AC 6A.250V.AC	44
DS-742	3A.125V.AC 1A.250V.AC	54,
DS-743	10A.125V.AC 4A.250V.AC	"
DS-752	3A.125V.AC 1A.250V.AC	"
DS-753	10A.125V.AC 4A.250V.AC	"
MS-800	0.1A.30V.DC	44

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3	PARTS NO.	RATING	Р
	DS-801	3A.125V.AC 1A.250V.AC	45
0	DS-802	"	"
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1			
,	_		
2			
,			
3			
4			
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DIP & WATER PROOF SWITCH AND PUSH BUTTON SWITCH WITH FUSE HOLDER

	TER PROOF GLE SWITCHES	
PARTS NO.	RATING	Р
MS-200	0.4V.A.	48~ 50
MS-650	3A.125V.AC	51
MS-651	0.4V.A.	"

DIP SLIDE SWITCHES					
PARTS NO.	RATING	Р			
MS-820	DC24V.25mA	52			
DIP ROT	TARY SWITCHE	S			
MS-830-10	DC5V.100mA	53			
MS-830-16	"	"			

PUSH BUTTON SWITCH with FUSE HOLDER					
PARTS NO.	RATING	П			
DS-740	3A.125V.AC 1A.250V.AC	54			
DS-741	10A.125V.AC 4A.250V.AC	"			
DS-750	3A.125V.AC 1A.250V.AC	"			
DS-751	10A.125V.AC 4A.250V.AC	"			

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KEY LOCK SWITCHES

KEY LOCK SWITCHES			
PARTS NO.	RATING	Ъ	
SS-183	5A.125V.AC	55	
SS-184	"	"	
SS-232	1A.125V.AC	"	

PARTS NO.	RATING	Р
SS-233	1A.125V.AC	55
DS-760	3A.125V.AC 1A.250V.AC	"
DS-761	"	"
DS-770	"	"
DS-771	"	"
DS-775	"	"

1	PARTS NO.	RATING	Ъ
	DS-776	3A.125V.AC 1A.250V.AC	55

INDICATOR LIGHT

ILLUMINATOR				
PARTS NO.	TYPE	Р		
INCANI	DESCENT LAM	Р		
MP-007	E-5/8 2W (MAX)	56		
NEON LAMP				
MP-030	Without Resistor	56		
MP-036	AC100V (with Resistor)	"		
DIODE	ILLUMINATOF	?		
MP-040	LED	57		
MP-041	"	"		
MP-042	"	11		

PARTS NO.	TYPE	Р
MP-043	LED	57
MP-050	"	"
MP-051	11	58
MP-052	"	57
MP-053	"	58
MP-054	"	57
MP-055	11	58
MP-056	"	57
MP-057	"	58
MP-058	11	"
MP-059	"	11
MP-060	"	11

	_		
PA	RTS NO.	TYPE	Р
MF	P-062	LED	58
MF	P-063	"	"
MF	² -068	"	59
MF	P-069	<i>II</i> .	"
MF	P-070	"	"
MF	P-071	"	"
MF	P-072	"	"
MF	P-073	ll ll	"
MF	P-074	"	"
MF	P-075	"	"
MF	P-076	"	"
MF	P-077	"	"

PARTS NO.	TYPE	Р
MP-078	LED	60
MP-079	"	11
MP-080	"	"
MP-081	"	"
MP-082	11	"
MP-083	11	"

MECHANICAL COMPONENT PARTS

TEST CLIPS			
PARTS NO.	RATING	Р	
MJ-001	1A.125V.AC	60	
MJ-018	"	61	
MJ-019	"	"	
MJ-020	"	"	
MJ-026	300mA.30V.AC	62	
MJ-032	1A.125V.AC	11	
MJ-033	0.3A.50V.AC	11	

AC OUTLETS			
PARTS NO.	RATING	Р	
MC-011	15A.125V.AC	63	
MC-036	"	"	
MC-037	"	11	

FUS	SE HOLDERS	
PARTS NO.	RATING	Р
MF-007	10A.250V.AC	64
CAT. NO.007	"	"
MF-008	6A.250V.AC	11
CAT. NO.008	"	11
MF-009	10A.250V.AC	11
CAT. NO.MF009	"	11

UL LISTED SWITCHES [File No. E43907]

TYPE	PARTS NO.	CIRCUIT	FUNCTION	RATING	
TOGGLE	CAT.NO.69	SPST	ON-OFF	6A.250V.AC	Ī
SWITCH	DS-235	SPST	ON-OFF	6A.250V.AC	
	DS-236	SPDT	ON-ON	6A.250V.AC	
	DS-237	SPDT	ON-OFF-ON	6A.250V.AC	
	DS-238	DPDT	ON-ON	6A.250V.AC	
	DS-239	DPDT	ON-OFF-ON	6A.250V.AC	
LEVER	MS-500A.MF	SPDT	ON-ON	6A.125V.AC	
SWITCH	MS-500F.MF	DPDT	ON-ON	6A.125V.AC	
01111011	MS-500H.MF	DPDT	ON-OFF-ON	6A.125V.AC	
	CAT.NO.32-2A		ON-OFF	6A.250V.AC	
	DS-225,226	SPST	ON-OFF	6A.250V.AC	
	DS-227,228	SPDT	ON-ON	6A.250V.AC	
	DS-229,230	SPDT	ON-OFF-ON	6A.250V.AC	
	DS-231,232	DPDT	ON-ON	6A.250V.AC	
	DS-233,234	DPDT	ON-OFF-ON	6A.250V.AC	
PUSH	CAT.NO.63	SPST	ON-OFF	6A.250V.AC	
BUTTON	DS-700	SPDT	ON-ON		
SWITCH	DS-700	DPDT	ON-ON	1A.250V.AC	
	DS-710	SPDT	ON-(ON)	3A.125V.AC	
	DS-710	DPDT	ON-(ON)		
	DS-740,742	SPST	OFF-ON	(3A.125V.AC)	
	DS-750,752	SPST	OFF-(ON)	1A.250V.AC	

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TYPE	PARTS NO.	CIRCUIT	FUNCTION	RATING
ROCKER	CAT.NO.3A1	SPST	ON-OFF	6A.250V.AC
SWITCH	CAT.NO.3B2	SPST	ON-OFF	6A.250V.AC
	DS-023	SPST	ON-OFF	3A.125V.AC
	DS-322A	SPST	ON-OFF	15A.125V.AC
	DS-324	SPST	ON-OFF	15A.125V.AC
	DS-325	SPST	ON-OFF	15A.125V.AC
	DS-850	SPST	ON-OFF	5A.125V.AC
				(3A.250V.AC)
KEVLOCK	DS-760A.F	SPST~DPDT	ON-ON	0 A 10 EV A C
KEY LOCK SWITCH	DS-760A.F DS-761A.F	SPST~DPDT	ON-ON ON-ON	3A.125V.AC 1A.250V.AC
0,,,,,	D3-761A.F	3731~0701	OIN-OIN	(1A.250V.AC)
	DS-770	SPST	ON-OFF	3A.125V.AC
	DS-771	SPST	ON-OFF	1A.250V.AC
	20 , , 1	0.01	011 011	(17.1.2001.7.0)
PUSH	DS-741,743	SPST	OFF-ON	(10A.125V.AC)
BUTTON	DS-751,753	SPST	OFF-(ON)	4A.250V.AC
SWITCH				

[File No. E43163] FUSE HOLDERS

PARTS NO.	RATING
CAT.NO-007	10A.250V.AC
CAT.NO-008	6A.250V.AC
CAT.NO-MF009	10A.250V.AC

[File No. E43883]	AC OUTLETS
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PARTS NO.	RATING	
MC-036	15A.125V.AC	

[File No. LR26920]

CSA APPROVED SWITCHES

TYPE	PARTS NO.	CIRCUIT	FUNCTION	RATING
TOGGLE	CAT.NO.69	SPST	ON-OFF	6A.250V.AC
SWITCH	DS-235	SPST	ON-OFF	6A.250V.AC
	DS-236	SPDT	ON-ON	6A.250V.AC
	DS-237	SPDT	ON-OFF-ON	6A.250V.AC
	DS-238	DPDT	ON-ON	6A.250V.AC
	DS-239	DPDT	ON-OFF-ON	6A.250V.AC
LEVER	CAT.NO.32-2A	SPST	ON-OFF	6A.250V.AC
SWITCH	DS-225,226	SPST	ON-OFF	6A.250V.AC
	DS-227,228	SPDT	ON-ON	6A.250V.AC
	DS-229,230	SPDT	ON-OFF-ON	6A.250V.AC
	DS-231,232	DPDT	ON-ON	6A.250V.AC
	DS-233,234	DPDT	ON-OFF-ON	6A.250V.AC

TYPE	PARTS NO.	CIRCUIT	FUNCTION	RATING
PUSH BUTTON	CAT.NO.63	SPST	ON-OFF	6A.250V.AC
SWITCH	DS-700	SPDT	ON-ON	(
	DS-700	DPDT	ON-ON	1A.250V.AC
	DS-710	SPDT	ON-(ON)	3A.125V.AC
	DS-710	DPDT	ON-(ON)	
ROCKER	CAT.NO.3A1	SPST	ON-OFF	6A.250V.AC
SWITCH	CAT.NO.3B2	SPST	ON-OFF	6A.250V.AC
	DS-023	SPST	ON-OFF	3A.125V.AC
	DS-322A	SPST	ON-OFF	15A.125V.AC
_	DS-324	SPST	ON-OFF	15A.125V.AC
	DS-325	SPST	ON-OFF	15A.125V.AC
	DS-850	SPST	ON-OFF	5A.125V.AC
				3A.250V.AC
1				

[File No. LR26930] FUSE HOLDERS

PARTS NO.	RATING
CAT.NO-007	10A.250V.AC
CAT.NO-008	6A.250V.AC
CAT.NO-MF009	10A.250V.AC

NOTE:

When you like to have UL Standard product, it is necessary for you to appoint the one with " Mark", but in such case it will take more delivery time than normal one caused by inspection time, please

ORDER INSTRUCTIONS

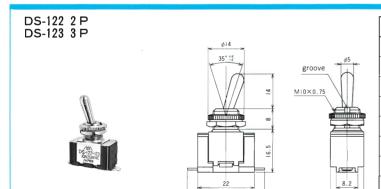
When placing order, please specify the following items according to uses.

As specifications are different depending upon each product series, please refer to the applicable specification of this brochure.

Operating mode	Push、Lever、Rocker
Circuit arrangement	SPST、SPDT、DPST、DPDT、3PDT、4PDT
Load conditions	If available, inform us of actual load conditions (max, and min.) We may conduct tests for acknowledgement.
Applicable standard	UL and CSA
Knob design and dimension	Select one from those given in this brochure. For special requirements please consult us.
Marking	Please consult us rating part No., labeling, etc.

NOTE: When you like to have UL Standard product, it is necessary for you to appoint the one with " Mark", but in such case it will take more delivery time than normal one caused by inspection time, please understand in advance. : Contents in this brochure are only for standard products. We also have a broad range of optional and special products not listed in this brochure to meet with your requirements.

TOGGLE SWITCHES



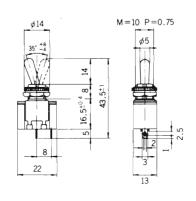
PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION
DS-122	SPST	2P	ON-OFF
DS-123	SPDT	3P	ON-ON
RATING	10A.250V.AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)		
VOLTAGE BREAKDOWN	AC.1500V.1Minute		
COMPLETED	Nickel Plated Brass		

Mounting Hole ϕ 10.2

This drawing is for DS-122

DS-122 E 2 P



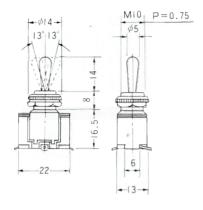


CIRCUIT	SPST(2P)
SWITCHING FUNCTION	ON-OFF
RATING	10A.125V.AC,6A.250V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1500V.1Minute
COMPLETED	Nickel Plated Brass

Mounting Hole ϕ 1 0.2

DS-124 CO 3 P



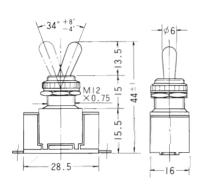


CIRCUIT	SPDT(3P)
SWITCHING FUNCTION	ON-OFF-ON
RATING	10A.125V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1000V.1Minute
COMPLETED	Nickel Plated Brass

Mounting Hole ϕ 10.2

DS-140 2 P CAT.NO.69



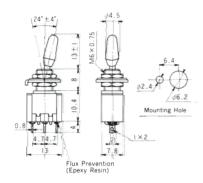


CIRCUIT	SPST(2P)
SWITCHING FUNCTION	ON-OFF
RATING	6A.250V.AC
CONTACT RESISTANCE	10mΩ(MAX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1500V.1Minute
COMPLETED	Nickel Plated Brass

Mounting Hole ϕ 1 2.2

MS-165 2P (10A) MS-166 3P (10A) MS-167 CO 3P (6A)



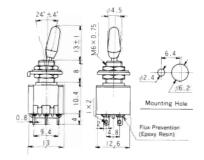


This drawing is for MS-166

PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION		
MS-165	SPST	2P	ON-OFF		
MS-166	SPDT	3P	ON-ON		
MS-167	31 01	31	ON-OFF-ON		
RATING	10A.125V.AC(MS-165,1	166) 6A.:	125V.AC(MS-167)		
CONTACT RESISTANCE	$20m\Omega(MAX)$				
INSULATION RESISTANCE	DC.500V.100MΩ(N	/IN)			
VOLTAGE BREAKDOWN	AC.1000V. I Minute				
COLOR	Red, Black, White				

MS-168 6P (10A) MS-169 CO 6P (6A)





This drawing is for MS-168

PARTS NO	CIRCUIT	ΤΕΡΜΙΝΙΔΙ	SWICHING FUNCTION			
PARTS NO	CIRCUIT	LEKTAIIIAE				
MS-168	DPDT	6P	ON-ON			
MS-169		01	ON-OFF-ON			
-		~				
RATING	10A. 125V. AC(MS-168	6) 6A. 12	5V. AC:MS-169			
CONTACT RESISTANCE	20mΩ(MAX)	_				
INSULATION RESISTANCE	DC.500V. 100MΩ(N	1AX)				
VOLTAGE BREAKDOWN	AC.1000V. I Minute					
COLOR	Red, Black, White					

MS ECONOMICAL SERIES MIDGET TOGGLE SWITCHES

Following 9 types of midget toggle switches are made as economical price and eliminated production cost with flux prevention (Epoxy Resin Sealed) terminals.

MS-172E 2P

Color Tip

Color: Red, Black, White, Yellow, Blue

MS-175E 2P Plastic Cap Color Lever

Color: Red, Black, White, Yellow, Blue

MS-184E 2P AL Spin Processing



MS-173E 3P

Color Tip

Color: Red, Black, White, Yellow, Blue

MS-176E 3P

Plastic Cap Color Lever

Color: Red, Black, White, Yellow, Blue

MS-185E 3P AL Spin Processing



MS-174E 6P

Color Tip

 ${\tt Color: Red, Black, White, Yellow, Blue}$

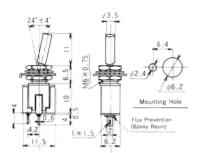
MS-177E 6P

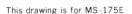
Plastic Cap Color Lever

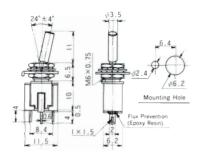
Color: Red, Black, White, Yellow, Blue

MS-186E 6P AL Spin Processing

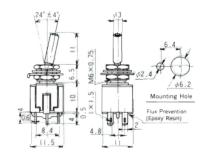








This drawing is for MS-185E



This drawing is for MS-174E

PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
MS-172E,175E,184E MS-173E,176E,185E MS-174E,177E,186E	SPST(2P) SPDT(3P) DPDT(6P)	ON-OFF (2P) ON-OFF(3P,6P)	3A.125V.AC	DC.500V 100MΩ (MIN)	AC.1000V 1 Minute	DC2.5V.1A 20mΩ(MAX)

MIDGET TOGGLE SWITCHES

MS-246 2P (STANDARD) Color: Red, White, Black, Yellow, Blue

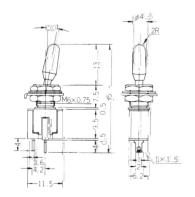


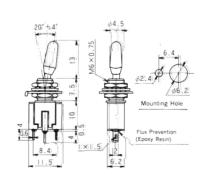
MS-247 3P (STANDARD) Color: Red, White, Black, Yellow, Blue

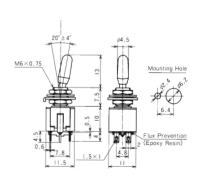


MS-248 6P (STANDARD) Color: Red, White, Black, Yellow, Blue







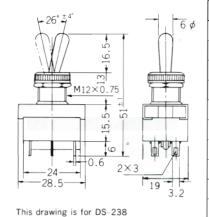


PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
MS-246 MS-247 MS-248	SPST(2P) SPDT(3P) DPDT(6P)	ON-OFF ON-ON ON-ON	6A.125V.AC	DC.500V 100MΩ (MIN)	AC.1000V 1Minute	DC,2.5V,1A 20mΩ(MAX)





Mounting Hole ϕ 12.2



PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION				
DS-235	SPST	2P	ON-OFF				
DS-236	SPDT	3P	ON-ON				
DS-237	31 01	31	ON-OFF-ON				
DS-238	DPDT	6P	ON-ON				
DS-239	·	OF	ON-OFF-ON				
RATING	6A.250V.AC						
CONTACT RESISTANCE	20mΩ(MAX)						
INSULATION RESISTANCE	DC.500V.100MΩ(N	/IIN)					
VOLTAGE BREAKDOWN	AC.1500V.1Minute						
COMPLETED	Nickel Plated Brass	5					

MINI - MINI TOGGLE SWITCHES

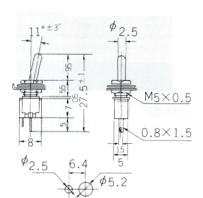
MS-240 2P

Color: Red, Black, White, Yellow, Blue

MS-243 2P

Chrome Plated Brass





(Drawing for MS-243)

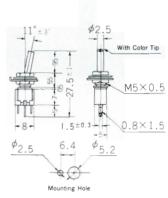
MS-241 3P

Color: Red, Black, White, Yellow, Blue

MS-244 3P

Chrome Plated Brass





(Drawing for MS-241)

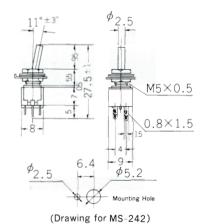
MS-242 6P

Color: Red, Black, White, Yellow, Blue

MS-245 6P

Chrome Plated Brass





PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
MS-240, 243 MS-241, 244 MS-242, 245	SPST(2P) SPDT(3P) DPDT(6P)	ON-OFF ON-ON ON-ON	3A.125V.AC	DC.500V 100MΩ (MIN)	AC.1000V 1Minute	DC.2.5V. 1A 20mΩ (MAX)

M-SERIES MULTI-MIDGET TOGGLE SWITCHES

ELECTRICAL, OVER 10,000 OPERATIONS. MECHANICAL. OVER 30,000 OPERATIONS (A.F TYPE ONLY)

UL & CSA LISTED ITEMS AS NOTED BELOW:

										- <u>-</u>
PARTS	STANDARD	STANDARD	STANDARD	STANDARD	FLAT LEVER	FLAT LEVER	FLAT LEVER	FLAT LEVER	FLAT LEVER	FLAT LEVER
No.	MS.328	MS.329	PRODUCTION BY ORDER MS-330	PRODUCTION BY ORDER MS-331	MS-332	MS 333	MS-334	MS:335	PRODUCTION BY ORDER MS-336	PRODUCTION BY ORDE MS-337
	UL ON-ON A	UL ON-ON A	UL ON-ON A	UL ON-ON A	UL ON-ON A	UL ON-ON				
0DDT	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) E				
SPDT	UL ON-OFF-ON C	UL ON-OFF-ON C	UL ON-OFF-ON C	UL ON-OFF-ON C	UL ON-OFF-ON C	UL ON-OFF-ON C				
(3P)	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON)				
	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E				
	UL ON-ON F	UL ON-ON F	UL ON-ON F	UL ON-ON F	UL ON-ON F	UL ON-ON F				
DDDT	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON)				
DPDT	UL ON-OFF-ON H	UL ON-OFF-ON H	UL ON-OFF-ON H	UL ON-OFF-ON H	UL CSAON-OFF-ON H	UL ON-OFF-ON H	UL ON-OFF-ON H	UL ON-OFF-ON H	UL ON-OFF-ON H	UL ON-OFF-ON H
(6P)	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I				
	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J				
COLOR	Red, Black, White Yellow, Blue	Red. Black, White Yellow, Blue	Silver	Red. Black, White Yellow, Blue	Silver	Red. Black, White Yellow, Blue	Silver			
TERMINALS	Solder Terminal	Printed Circuit	Right Angle Mounting	Vertical Mounting	Solder Terminal	Solder Terminal	Printed Circuit	Printed Circuit	Right Angle Mounting	Right Angle Mounting
FLAT LEVES	E1 47 1 E1/E2	DIACTIC	DI ACTIC	DI ACTIC	DIACTIC	1000 15050	10001575	BOOKER	LEVED	DOOKED
FLAT LEVER	FLAT LEVER	PLASTIC	PLASTIC	PLASTIC	PLASTIC	LONG LEVER	LONG LEVER	ROCKER	LĒVER	ROCKER

FL	AT LEVE	R	FLAT LEVER	PLASTIC	PLASTIC	PLASTIC	PLASTIC	LONG LEVER	LONG LEVER	ROCKER	LEVER	ROCKER
	一		The state of the s								1	
PROD	UCTION BY OF	RUER	PRODUCTION BY ORDER	001	1414	PRODUCTION BY ORDER	PRODUCTION BY ORDER	10	-	- , ,		MS-351□-W2- (COLOR)-F
	MS-338		MS-339	MS-340	MS-341	MS-342	MS-343	MS-344	MS-345	MS-351	MS-352	,
UL	ON-ON	Α	UL ON-ON A	UL ON-ON A	UL ON-ON A	UL ON-ON A	UL ON-ON A	UL ON-ON A	UL ON-ON A	ON-ON A	ON-ON A	BLACK
	ON-(ON)	В	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B	WHITE GRAY
UL (ON-OFF-ON	1 C	UL ON-OFF-ON C	UL ON-OFF-ON C	UL ON-OFF-ON C	UL ON-OFF-ON C	UL ON-OFF-ON C	UL ON-OFF-ON C	UL ON-OFF-ON C	ON-OFF-ON C	ON-OFF-ON C	
0	N-OFF-(ON	() D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ROCKER
(01	N)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	
UL	ON-ON	F	UL ON-ON F	UL ON-ON F	UL ON-ON F	UL ON-ON F	UL ON-ON F	UL ON-ON F	UL ON-ON F	ON-ON F	ON-ON F	
	ON-(ON)	G	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G	12 12 12
UL (ON-OFF-ON	Н	UL ON-OFF-ON H	UL ON-OFF-ON H	UL ON-OFF-ON H	UL ON-OFF-ON H	UL ON-OFF-ON H	UL ON-OFF-ON H	UL ON-OFF-ON H	ON-OFF-ON H	ON-OFF-ON H	MS-351 □-₩2-
0	N-OFF-(ON	i) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	(COLOR)-5
(0)	N)-OFF-(ON	l) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	BLACK
	, Black, Whi ow, Blue	ite	Silver	Red, Black, White Yellow, Blue	Chrome Plated Brass	Red, Black, White	Black	Black	WHITE GRAY			
Ver	tical Mounti	ing	Vertical Mounting	Solder Terminal	Printed Circuit	Right Angle Mounting	Vertical Mounting	Solder Terminal	Solder Terminal	Solder Terminal	Solder Terminal	

PARTS N	10	CIRCUIT	FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
	Α	SPDT(3P)	ON-ON				
	В	SPDT(3P)	ON-(ON)				
MS-328	С	SPDT(3P)	ON-OFF-ON				
	D	SPDT(3P)	ON-OFF-(ON)		DO 500V		DO 0 EV 14
,	Ε	SPDT(3P)	(ON)-OFF-(ON)	6A.125V.AC	DC.500V	AC.1000V	DC.2.5V.1A.
(F	DPDT(6P)	ON-ON	(3A.250V.AC)	100ΜΩ		20mΩ
	G	DPDT(6P)	ON-(ON)		Minimum	1Minute	Maximum
MS-352	Н	DPDT(6P)	ON-OFF-ON				
	ı	DPDT(6P)	ON-OFF-(ON)				
	J	DPDT(6P)	(ON)-OFF-(ON)				

M-SERIES	GENERAL RATINGS
RESISTANCE LOAD	6A 125VAC (3A 250VAC) (6A 30VDC)
INDUCTIVE LOAD	6A 125VAC (POWER FACTOR 0.8) (3A 250VAC) (P.F.0.8)
MECHANICAL LIFE	OVER 30,000 OPERATIONS (SWITCHING FREQUENCY 20 OPERATIONS/MINUTE)
ELECTRICAL LIFE	OVER 10,000 OPERATIONS (SAME AS ABOVE) (RATED LOAD)
INSTALLATION RESISTANCE	OVER 100MΩ (BY DC 500V TESTER)
VOLTAGE BREAKDOWN	AC 1000V/1 MIN (BETWEEN CONTACT & CASE)
CONTACT RESISTANCE	20mΩ MAXIMUM
AMBIENT TEMPERATURE	-10°C~+55°C
AMBIENT HUMIDITY	85%RH MAXIMUM

NOTE:

When you like to have UL Standard product, it is necessary for you to appoint the one with "Mark", but in such case it will take more delivery time then nomal one caused by inspection time, please understand in advance.

M-SERIES TOGGLE SWITCHES

These M-series have 4 shapes of terminal of Solder, Printed Circuit, Right Angle Mounting and Vertical Mounting arranged.

Conductive part of this series is finished with gold plated.

M-SERIES ORDERING INFORMATIONS

MS-328	_	Α
1		2

- ①Serise Number
- 2)Code of Switching Function

***** Color

- $\bigcirc R \cdots Red$
- OK ⋅⋅⋅ Black
- ○W··· White
- ○Y ··· Yellow
- ○U ··· Blue
- ○N ··· Gray

%Shape of Operation Part

- OBat Type Lever without Cap
- OBat Type Lever with Color Cap
- OMetal Flat Lever
- ○Mould Flat Color Lever
- OLever with Color Tip Lever
- OPlastic Cap Color Lever
- OMetal Long Lever
- OMetal Long Color Lever

Circuit, Swiching Function and Code

Circuit	SW.Functions	Code
SPDT	ON-ON	А
SPDT	ON-(ON)	В
SPDT	ON-OFF-ON	С
SPDT	ON-OFF-(ON)	D
SPDT	(ON)-OFF-(ON)	Е
DPDT	ON-ON	F
DPDT	ON-(ON)	G
DPDP	ON-OFF-ON	Н
DTDT	ON-OFF-(ON)	1
DPDT	(ON)-OFF-(ON)	J
SPST	ON-OFF	K
3PDT	ON-ON	М
3PDT	ON-OFF-ON	N
4PDT	ON-ON	Р
4PDT	ON-OFF-ON	R

Note: () Parenthesis denotes momentary position.

MS-328 Solder Terminal COLOR

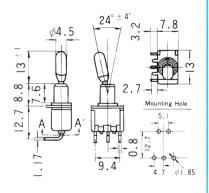
Red, Black, White Yellow, Blue



MS-330 Right Angle Mounting Red, Black, White

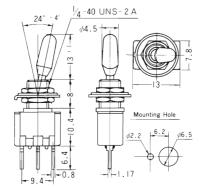
Yellow, Blue





Production by Order

MS-329 **Printed Circuit** COLOR Red, Black, White Yellow, Blue

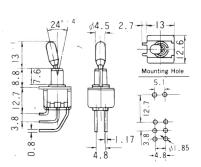


This drawing is for MS-329A

MS-331 Vertical Mounting COLOR

Red, Black, White Yellow, Blue



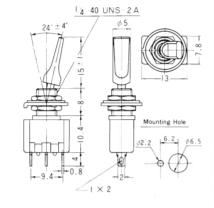


Production by Order

M-SERIES TOGGLE SWITCHES

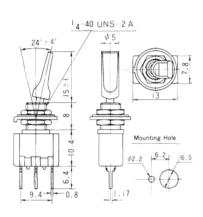
MS-332 Solder Terminal COLOR Red, Black, White Yellow, Blue

MS-333 Solder Terminal COLOR Silver



MS-334 Printed Circuit COLOR Red, Black, White Yellow, Blue

MS-335 **Printed Circuit** COLOR Silver



MS-336 Right Angle Mounting COLOR

Red, Black, White Yellow, Blue

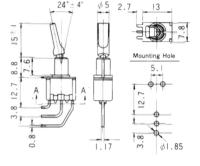
MS-337 Right Angle Mounting COLOR Silver



Production by Order

MS-338 Vertical Mounting COLOR Red, Black, White Yellow, Blue

MS-339 Vertical Mounting COLOR Silver

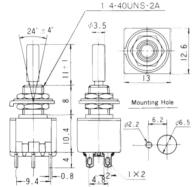


24° : 4° 3.2 | 12.6

Production by Order

MS-340 Solder Terminal COLOR Red, Black, White Yellow, Blue



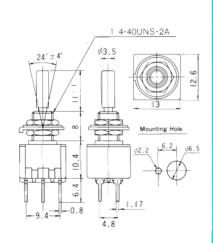


This drawing is for MS-340H

1 4-40UNS-2A



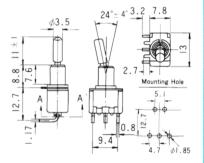
MS-341



MS-342 Right Angle Mounting COLOR

Red, Black, White Yellow, Blue

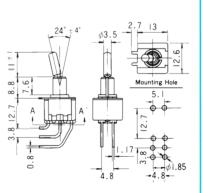




Production by Order

MS-343 Vertical Mounting COLOR Red, Black, White Yellow, Blue





Production by Order

M-SERIES LEVER & ROCKER SWITCHES





Mounting Hole

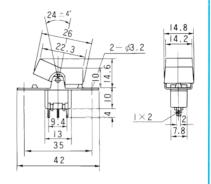
Mounting Hole

A 40UNS-2A

This drawing is for MS-344F

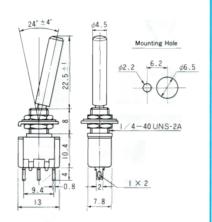
MS-351 Solder Terminal ROCKER COLOR Black





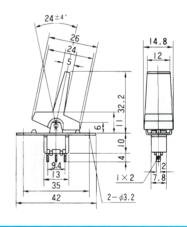
MS-345 Solder Terminal LONG LEVER COLOR Red, Black, White





MS-352 Solder Terminal LEVER COLOR Black

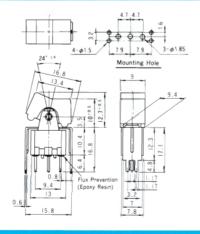




MS-351 \square -W 2-(COLOR)-P COLOR

White Black Gray

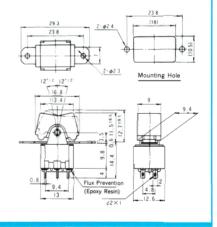




MS-351 □-W 2-(COLOR)-S COLOR

White Black Gray





MS-500-SERIES UL & CSA LISTED ITEMS AS NOTED BELOW:

PARTS No.	МS-500 В	.MS-500 BC	MS-500 F	MS-500 MF	MS-500 CL	MS-500 L	MS-500 ML	MS-500 PL
CIRCUITS					ere, sing			
SPST (2P)	CSA ON-OFF K	CSA ON-OFF K	ON-OFF K	ON-OFF K	ON-OFF K	ON-OFF K	ON-OFF K	ON-OFF K
	CSA ON-ON A	CSA ON-ON A	ON-ON A	UL ON-ON A	ON-ON A	ON-ON A	ON-ON A	ON-ON A
SPDT	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B
(3P)	CSA ON-OFF-ON C	CSA ON-OFF-ON C	ON-OFF-ON C	ON-OFF-ON C	ON-OFF-ON C	ON-OFF-ON C	ON-OFF-ON C	ON-OFF-ON C
(3P)	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D
	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E	(ON)-OFF-(ON) E
	CSA ON-ON F	CSA ON-ON F	ON-ON F	UL CSA ON-ON F	ON-ON F	ON-ON F	ON-ON F	ON-ON F
DPDT	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G
(6P)	CSA ON-OFF-ON H	CSA ON-OFF-ON H	ON-OFF-ON H	UL CSA ON-OFF-ON H	ON-OFF-ON H	ON-OFF-ON H	ON-OFF-ON H	ON-OFF-ON H
(6P)	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I
	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J
COLOR	Nickel Plated Brass	Red, Black, White Yellow, Blue	Chrome Plated Brass	Red, Black, White Yellow, Blue	Red, Black, White Yellow, Blue	Nickel Plated Brass	Red, Black, Cream	Red, Black, White Yellow
TERMINALS	Solder Terminal	Solder Terminal	Solder Terminal	Solder Terminal	Solder Terminal	Solder Terminal	Solder Terminal	Solder Terminal
	MC 500	146 500	MC 500 - W0	110 500 - 110			500(0=)	

PARTS No.	MS-500 RI	MS-500 VT	MS-500□W2- (COLOR) -P	MS-500□W2- (COLOR) -S	
CIRCUITS				William To	
	ON-ON A	ON-ON A	ON-ON A	ON-ON A	
SPDT	ON-(ON) B	ON-(ON) B	ON-(ON) B	ON-(ON) B	
(3P)	ON-OFF-ON C	ON-OFF-ON C	ON-OFF-ON C	ON-OFF-ON C	
(3F)	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	ON-OFF-(ON) D	
	(ON)-OFF-(ON)E	(ON)-OFF-(ON)E	(ON)-OFF-(ON)E	(ON)-OFF-(ON)E	
	ON-ON F	ON-ON F	ON-ON F	ON-ON F	
DPDT	ON-(ON) G	ON-(ON) G	ON-(ON) G	ON-(ON) G	
(6P)	ON-OFF-ON H	ON-OFF-ON H	ON-OFF-ON H	ON-OFF-ON H	
(62)	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	ON-OFF-(ON) I	
	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	(ON)-OFF-(ON) J	
COLOR	Nickel Plated Brass	Nickel Plated Brass	Black, White, Gray	Black, White, Gray	
TERMINALS	Right Angle Mounting	Vertical Mounting	Printed Circuit	Solder Terminal	

PARTS No.	MS-500M(9P) MS-500N (CO9P)-B	MS-500P(12P) MS-500R (CO12P)-B
CIRCUITS		
3PDT	ON-ON M	
(9P)	ON-OFF-ON N	
4PDT		ON-ON P
(12P)		ON-OFF-ON R
COLOR	Nickel Plated Brass	Nickel Plated Brass
TERMINALS	Solder Terminal	Solder Terminal

RATING	6A. 125V. (3A. 250V. AC)
CONTACT RESISTANCE	20mΩ (MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ (MIN)
VOLTAGE BREAKDOWN	AC. 1000/ F min
CAP COLOR	Red, Black, White, Yellow, Blue, Silver

NOTE:

When you like to have UL Standard product, it is necessary for you to appoint the one with "Mark", but in such case it will take more delivery time then nomal one caused by inspection time, please understand in advance.

MS-500-SERIES MULTI-MIDGET TOGGLE SWITCHES

This series midget toggle switches offer 3 different functions, SPST to DPDT and 8 lever types. This series offer you economical price.

ORDERING INFORMATION

 $\mathsf{MS} ext{-500} - \mathsf{A} - \mathsf{MF} - \mathsf{R}$

① Serise No.

2 Code of Switching Function

(3) Shape of Operation Part

B..... Bat Type Lever without Cap

BC··· Bat Type Lever with Color Cap PL··· Plastic Cap Color Lever

F..... Metal Flat Lever

MF... Mould Flat Color Lever

CL... Lever with Color Tip Top

L····· Metal Long Lever

ML... Mould Long Color Lever

4 Color

R····· Red

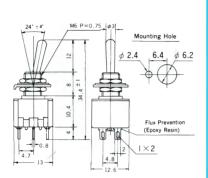
U····· Blue N ······ Grav

K····· Black

W White Y Yellow

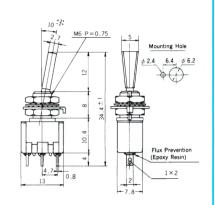
MS-500 □-B Solder Terminal Nickel Plated Brass





MS-500 □-F Solder Terminal Chrome Plated Brass





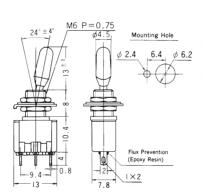
MS-500 □-BC Solder Terminal COLOR

Red, Black

White

Yellow Blue



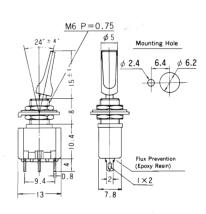


MS-500 □-MF Solder Terminal COLOR Red, Black

White

Yellow, Blue

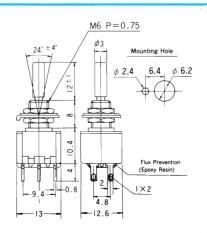




Solder Terminal COLOR

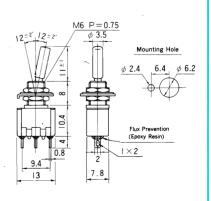
Red, Black, White Yellow, Blue





MS-500 □-PL Solder Terminal COLOR Red, Black White, Yellow

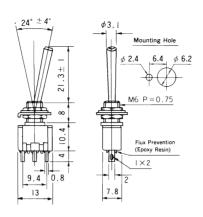




MS-500-SERIES MULTI-MIDGET TOGGLE SWITCHES

MS-500 □-L Solder Terminal COLOR Nickel Plated Brass

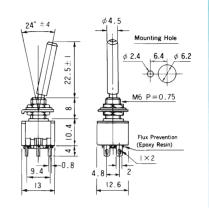




MS-500 —-ML Solder Terminal COLOR

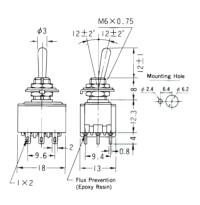
Red, Black, Cream





MS-500M-B(9P)
MS-500 N-B (CO9P)
Solder Terminal
COLOR
Nickel Plated Brass

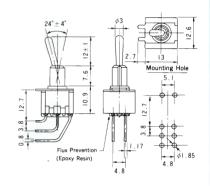




MS-500 —-B-VT Vertical Mounting COLOR

Nickel Plated Brass





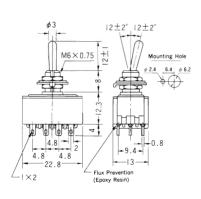
This drawing is for MS-500F-B-VT

MS-500 P-B (12P) MS-500 R-B (CO 12P) Solder Terminal

COLOR

Nickel Plated Brass

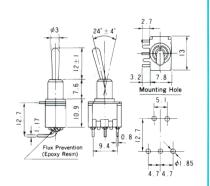




MS-500 □-B-RI Right Angle Mounting COLOR

Nickel Plated Brass





This drawing is for MS-500A-B-RI $\,$

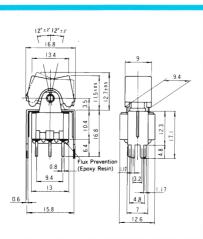
MS-500 SERIES MIGET ROCKER SWITCHES

MS-500 —-W 2(COLOR)-P PCB Circuit COLOR

COLOR

Black, White, Gray

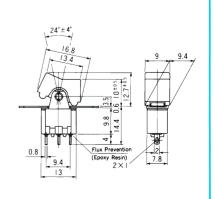




MS-500 □-W 2(COLOR)-S Solder Terminal COLOR

Black, White, Gray



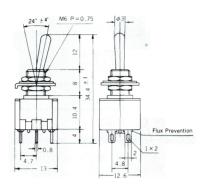


MS-550-SERIES TOGGLE SWITCHES

We hereby introduce our MS-550 SERIES with our confidence as economical type of MS-500 SERIES. This series has successfuly been much cost-downed by adoption of mass-production system. We would like to recommend these products of beatiful green case with lower prices.

MS-550





This drawing is for MS-550F-B

PARTS N	0	CIRCUIT	TERMINALS	SWITHING FUNCTION
	K	SPST(2P)		ON-OFF
	Α	SPDT(3P)		ON-ON
MS-550	С	SPDT(3P)	Solder Terminal	ON-OFF-ON
	F	DPDT(6P)		ON-ON
	Н	DPDT(6P)		ON-OFF-ON

RATING	3A. 125V. AC(1A.250V.AC)
CONTACT RESISTANCE	20mΩ (MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ (MIN)
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute
COMPLETED	Nickel Plated Brass

MS-600-SERIES TOGGLE SWITCHES

600-SERIES toggle switches offer 3 different functions, SPST (2P) to DPDT (6P), and 3 lever types.

ORDERING INFORMATION

MS-600

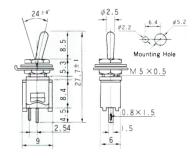
- ① Series Number
- 2 Code of Switching Functions
- 3 Shape of Operation Parts

B: Bat Type Lever without Cap CL: Lever with Color Tip Top

F: Metal Flat Lever

MS-600 □-B



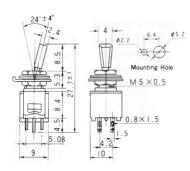


This drawing is for MS-600K-B

MS-600 □-F



Nickel Plated Brass



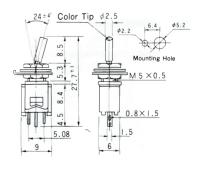
This drawing is for MS-600F-F

MS-600 _-CL With Color Tip

Nickel Plated Brass



COLOR Red Black White Yellow Blue



This drawing is for MS-600A-CL

PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
MS-600 K MS-600 A MS-600 F	SPST(2P) SPDT(3P) DPDT(6P)	ON-OFF ON-ON ON-ON	3A.125V.AC	DC.500V 100MΩ (MIN)	AC.1000V 1Minute	DC.2.5V.1A 20mΩ (MAX)

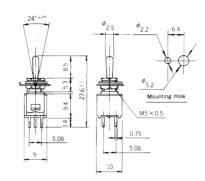
MS-610-SERIES (LOW CURRENT)

610-SERIES mini-sized toggle switches are made for low current (0.3A, 125V, AC) PC board use.

MS-610K MS-610A MS-610F



PC Terminal



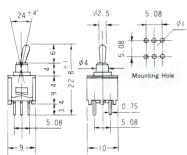
This drawing is for MS-610F

PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
MS-610 K MS-610 A MS-610 F	SPST(2P) SPDT(3P) DPDT(6P)	ON-OFF ON-ON ON-ON	0.3A.125V.AC	DC.500V 100MΩ (MIN)	AC.1000V 1Minute	DC 2.5V.100mA 20mΩ (MAX)

MS-61 I-SERIES (LOW CURRENT)

MS-611K MS-611A MS-611F





611-SERIES mini-sized toggle switches are made for use of low current (0.3A, 125V, AC) for the PC board.

PC Terminal

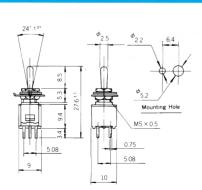
This	drawing	is	for	MS-611F

PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
MS-611 K MS-611 A MS-611 F	SPST(2P) SPDT(3P) DPDT(6P)	ON-OFF ON-ON ON-ON	0.3A.125V.AC	DC.500V 100MΩ (MIN)	AC.1000V 1 Minute	DC.2.5V.1A 20mΩ(MAX)

MS-620-SERIES (LOW CURRENT)

MS-620C MS-620H





620-SERIES TOGGLE SWITCHES FOR DC

This toggle switches are made for low current (0.3A, 30V, DC) PC board use.

PC Terminal

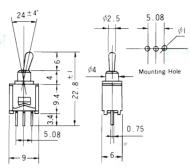
This drawing is for MS-620H

PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
MS-620 C MS-620 H	SPDT(3P) DPDT(6P)	ON-OFF-ON	0.3A.30V.DC	DC.500V 100MΩ (MIN)	AC.500V 1 M inute	DC.2.5V.100mA 20mΩ(MAX)

MS-62 I-SERIES (FOR DC)

MS-621C MS-621H





621-SERIES toggle switches are made for use of low current (0.3A, 30V, DC) for the PC board. They have two types of center off only for SPDT (3P) and DPDT (6P).

PC Terminal

This drawing is for MS-621C

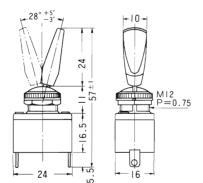
PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
MS-621 C MS-621 H	SPDT(3P) DPDT(6P)	ON-OFF-ON	0.3A.30V.DC	DC.500V 100MΩ (MIN)	AC.500V 1 Minute	DC.2.5V.100mA 20mΩ(MAX)

LEVER SWITCHES

DS-038 2 P DS-039 2 P (S) CAT.No.32-2 A



Mounting Hole ϕ 1 2.2

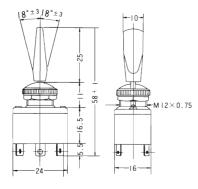


PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION	
DS-038	SPST	2P	ON-OFF	
DS-039	31 31	21	011 011	
RATING	6A.250V.AC			
CONTACT RESISTANCE	20mΩ(MAX)			
INSULATION RESISTANCE	DC.500V.100M(MIN)			
VOLTAGE BREAKDOWN	AC.1500V.1Minute			
COLOR	Red,Black,Silver(S)			

DS-050 4 P DS-051 4 P (S) DS-054 6 P DS-055 6 P (S) DS-056 CO 6 P DS-057 CO 6 P (S)



Mounting Hole ϕ 12.2



This drawing is for DS-054

PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION
DS-050,051	DPST	4P	ON-OFF
DS-054,055	DPDT	CD	ON-ON
DS-056,057	DFDT	∠6P	ON-OFF-ON
RATING	6A.250V.AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)		
VOLTAGE BREAKDOWN	AC.1500V.1Minute		
COLOR	Red,Black,Silver(S)		

LEVER SWITCHES

DS-070 2P (K) DS-071 2P (G) DS-072 3P (K) DS-073 3P (G)



\$\frac{\phi}{22} \\ \frac{\phi}{30^{\display}} \\ \frac{\partial}{4} \\ \frac{\partial}{25}{5} \\ \frac{\phi}{5} \\ \fra

PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION		
DS-070,071	SPST	2P	ON-OFF		
DS-072,073	SPDT	3P	ON-ON		
RATING	3A.250V.AC		,		
CONTACT RESISTANCE	20mΩ(MAX)				
INSULATION RESISTANCE	DC.500V.100MΩ(N	MIN)			
VOLTAGE BREAKDOWN	AC.1500V.1Minute				
COLOR	Red,Black				

Frame Color…Black(k)Gold(G)

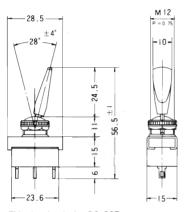
Mounting Hole ϕ 18.2

This drawing is for DS-070

DS-225 2 P DS-226 2 P (S) DS-227 3 P DS-228 3 P (S) DS-229 CO 3 P DS-230 CO 3 P (S)



Mounting Hole ϕ 12.2



This drawing is for DS-227

PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION
DS-225,226	SPST	2P	ON-OFF
DS-227,228	SPDT	3P	ON-ON
DS-229,230	31 01		ON-OFF-ON
RATING	6A.250V.AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)		
VOLTAGE BREAKDOWN	AC.1500V.1Minute		
COLOR	Red, Black, Silver(S)		

DS-231 6 P DS-232 6 P (S) DS-233 CO 6 P DS-234 CO 6 P (S)



Mounting Hole ϕ 12.2

28.5 28°±4°	6 16 11 24.5 57.5±1		M12×0.75
24	9	19	

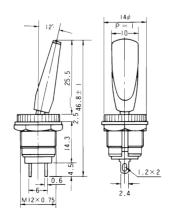
This drawing is for DS-231

PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION	
DS-231,232	DPDT	6P	ON-ON	
DS-233,234	DI DI	OF	ON-OFF-ON	
RATING	6A.250V.AC			
CONTACT RESISTANCE	20mΩ(MAX)			
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)			
VOLTAGE BREAKDOWN	AC.1500V.1Minute			
COLOR	Red, Black, Silver(S)			

DS-274 2 P DS-275 2 P (S)



Mounting Hole ϕ 12.2

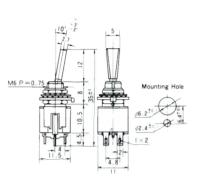


CIRCUIT	SPST(2P)
SWITCHING FUNCTION	ON-OFF
RATING	3A.125V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1000V.1Minute
COLOR	Red, Black, Silver(S)

LEVER SWITCHES

MS-373 2P MS-374 3P MS-375 6P



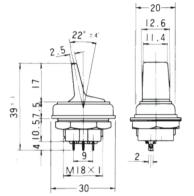


PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION		
MS-373	SPST	2P	ON-OFF		
MS-374	SPDT	3P	ON-ON		
MS-375	DPDT	6P	ON-ON		
PATING	6A.125V.AC				
CONTACT RESISTANCE	20mΩ(MAX)				
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)				
VOLTAGE BREAKDOWN	AC.1000V.1Minute				
COMPLETED	Chrome Plated Brass				

This drawing is for $MS-375\ 6P$

DS-391 2 P DS-392 3 P MS-393 6 P





PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION	
DS-391	SPST	2P	ON-OFF	
DS-392	SPDT	3P	ON-ON	
MS-393	DPDT	6P	ON-ON	
RATING	6A.125V.AC			
CONTACT RESISTANCE	20mΩ(M AX)			
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)			
VOLTAGE BREAKDOWN	AC.1000V.1Minute			
COLOR	Red, Black, Cream			

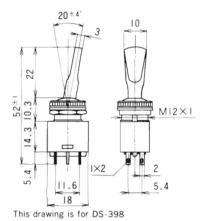
Mounting Hole ϕ 18.2

This drawing is for DS-392

DS-394 2 P DS-395 2 P (S) DS-396 3 P DS-397 3 P (S) DS-398 6 P DS-399 6 P (S)



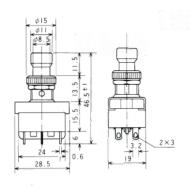




PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION		
DS-394,395	SPST	2P	ON-OFF		
DS-396,397	SPDT	3P	ON-ON		
DS-398,399	DPDT	6P	014-014		
RATING	6A.125V.AC				
CONTACT RESISTANCE	20mΩ(MAX)				
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)				
VOLTAGE BREAKDOWN	AC.1000V.1Minute				
COLOR	Red, Black, Silver(S)				

DS-008 6 P



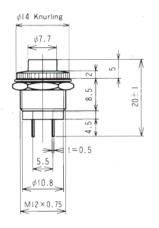


CIRCUIT	DPDT <6P>	
SWITCHING FUNCTION	ON-ON (Alternate)	
RATING	10A.125V.AC,6A.250V.AC	
CONTACT RESISTANCE	20mΩ(MAX)	
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)	
VOLTAGE BREAKDOWN	AC.1500V.1Minute	
COMPLETED	Chrome Plated Brass	

Mounting Hole ϕ 12.2

MS-016 2 P





CIRCUIT	SPST <2P>
SWITCHING FUNCTION	OFF-(ON) (Momentary)
RATING	1A.125V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1000V.1Minute
COLOR	Black

Mounting Hole ϕ 12.2

MS-027 2 P MS-028 2 P (with Mark)

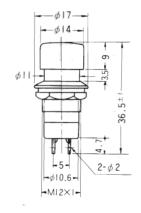




Mounting Hole ϕ 12.2

Cap Mark





PARTS NO	CIRCUIT	TERMINAL	SWITCHING FUNCTION
MS-027	SPST	2P	ON-OFF(Alternate)
MS-028	31 31	21	ON-OFF (Alternate)
RATING	3A.250V.AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)		
VOLTAGE BREAKDOWN	AC.1500V.1Minute		
COLOR	Red,Black,Cream,Blue		

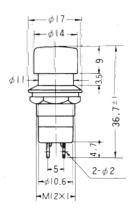
MS-029 2 P MS-030 2 P (with Mark)



Mounting Hole ϕ 12.2

Cap Mark

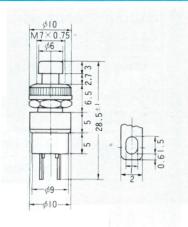




CIRCUIT	SPST <2P>
SWITCHING FUNCTION	OFF-(ON) (Momentary)
RATING	3A.250V.AC
CONTACT RESISTANCE	10mΩ(MAX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1500V.1Minute
COLOR	Red,Black,Cream,Blue

DS-102 2 P



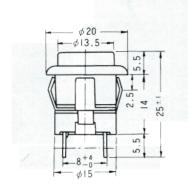


CIRCUIT	SPST <2P>
SWITCHING FUNCTION	OFF-(ON)(Momentary)
RATING	1A.125V.AC
CONTACT RESISTANCE	20mΩ(M AX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1000V.1Minute
COLOR	Red,Black,Cream

Mounting Hole ϕ 7.2

DS-131 2 P



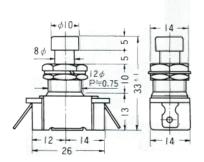


CIRCUIT	SPST <2P>
SWITCHING FUNCTION	OFF-(ON) (Momentary)
RATING	3A.125V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1000V.1Minute
COLOR	Red,Black,Cream

Mounting Hole ϕ 16.2

DS-139 2 P CAT.NO 63





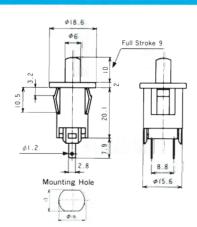
CIRCUIT	SPST <2P>
SWITCHING FUNCTION	ON-OFF (Alternate)
RATING	6A.250V.AC
CONTACT RESISTANCE	20mΩ(M AX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1500V.1Minute
COLOR	Red,Black,Cream

Mounting Hole ϕ 12.2

SS-160 2 P



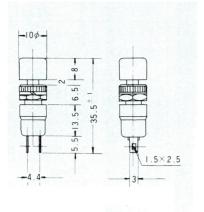
Pannel Thickness $2 \sim 3$



CIRCUIT	SPST < 2P >	
SWITCHING FUNCTION	ON-(OFF)(Momentary)	
PATING	0.3A.125V.AC,0.15A.250V.AC	
CONTACT RESISTANCE	20mΩ(MAX)	
INSULATION REIESTANCE	DC.500V.100MΩ(MIN)	
VOLTAGE BREAKDOWN	AC.1500V.1Minute	
COLOR	White, Gray	

DS-193 2 P DS-194 2 P



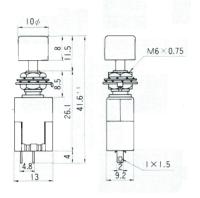


PARTS NO	CIRCUIT	TERMINAL	SWITHING FUNCTION
DS-193	SPST	2P	OFF-(ON)(Momentary)
DS-194	3531	21	ON-(OFF)(Monentary)
RATING	1A.125V.AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)		
VOLTAGE BREAKDOWN	AC.1000V.1Minute		
COLOR	Red,Black,White,Yellow,Blur		

Mounting Hole ϕ 7.2

⊃S-195 2 P ⊃S-196 3 P





PARTS NO	CIRCUIT	TERMINAL	SWITCHING FUNCTION
DS-195	SPST	2P	ON-OFF(Alternate)
DS-196	SPDT	3P	ON-ON(Alternate)
	_		
RATING	3A. 125V. AC		
CONTACT RESISTANCE	20mΩ(M AX)		
INSULATION RESISTANCE	DC. 500V. 100M(MIN)		
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute		
COLOR	Red, Black, White, Yellow, Blue		

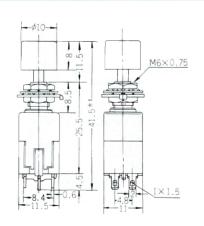
Mounting Hole ϕ 6.2

This drawing is for DS-195

MS-197 6 P



Mounting Hole ϕ 6.2

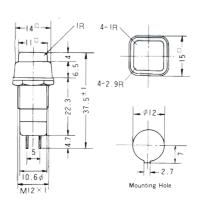


CIRCUIT	DPDT(6P)		
SWITCHING FUNCTION	ON-ON (Alternate)		
RATING	3A. 125V. AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)		
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute		
COLOR	Red, Black, White, Yellow, Blue		

MS-198 2 P MS-199 2 P



Mounting Hole ϕ 12.3

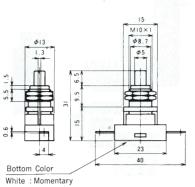


PARTS NO	CIRCUIT	TERMINAL	SWITCHING FUNCTION
MS-198	CDCT	2P -	ON-OFF(Alternate)
MS-199	SPST		OFF-(ON)(Momentary)
RATING	3A, 250V, AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC. 500V. 100M(MIN)		
VOLTAGE BREAKDOWN	AC. 1500V. 1Minute		
COLOR	Red, Black, White		





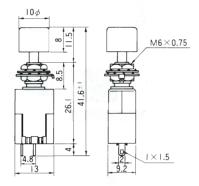




PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION
SS-200K	SPST	0.0	ON-OFF(Alternate)
SS-200L		2P	OFF-(ON)(Momentary)
RATING	1A.12V.DC, 1A.125V.AC		
CONTACT RESISTANCE	5mΩ(MAX)		
INSULATION RESISTANCE	DC. 500V. 100M Ω(MIN)		
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute		
COLOR	Cream		

DS-249 2 P DS-250 3 P





PARTS NO	CIRCUIT	TERMINAL	SWITCHING FUNCTION
DS-249	SPST	2P	ON-OFF(Alternate)
DS-250	SPDT	3P	ON-ON(Alternate)
RATING	6A. 125V. AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)		
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute		
COLOR	Red, Black, White, Yellow, Blue		
			•

Mounting Hole ϕ 6.2

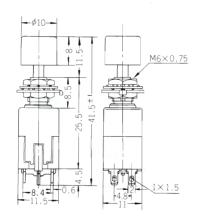
This drawing is for DS-249

Black : Alternate

MS-251 6 P



Mounting Hole ϕ 6.2

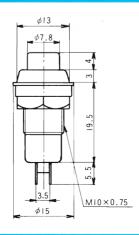


CIRCUIT	DPDT(6P)
SWITCHING FUNCTION	ON-ON (Alternate)
RATING	6A. 125V. AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute
COLOR	Red, Black, White, Yellow, Blue

DS-256 2 P DS-257 2 P DS-282 2 P DS-283 2 P



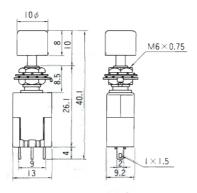
Mounting Hole ϕ 10.2



PARTS NO	CIRCUIT	TERMINAL	SWITCHING FUNCTION
DS-256,-282	SPST	2P	ON-OFF(Alternate)
DS-257,-283	3531	2P	OFF-(ON)(Momentary)
RATING	3A. 125V.AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)		
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute		
COMPLETED	Nickel Plated Brass		
COLOR	Red, Black, Cream		

DS-299 3 P MS-300 6 P





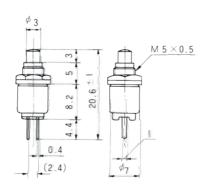
PARTS NO	CIRCUIT	TERMINAL	SWITCHING FUNCTION
DS-299	SPDT	3P	ON~(ON)(Momentary)
MS-300	DPDT	6P	ON-(ON)(Momentary)
		,	
RATING	3A. 125V. AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)		
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute		
COLOR	Red, Black, White, Yellow, Blue		

Mounting Hole ϕ 6.2

This drawing is for DS-299

MS-402 2 P



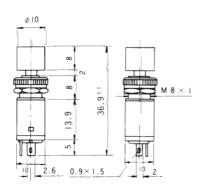


CIRCUIT	SPST(2P)
SWITCHING FUNCTION	OFF-(ON) (Momentary)
RATING	0.5A. 125V. AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute
COLOR	Red, Black

Mounting Hole ϕ 5.2

DS-408 2 P DS-409 3 P DS-410 2 P





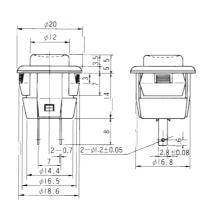
PARTS NO	CIRCUIT	TERMINAL	SWITCHING FUNCTION
DS-408	SPST	2P	ON-OFF(Alternate)
DS-409	SPDT	3P	ON-ON(Alternate)
DS-410	SPST	2P	OFF-(ON)(Momentary)
RATING	3A. 125V. AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC. 500V. 100MΩ	(MAX)	
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute		
COLOR	Red, Black, White, Yellow, Blue		

Mounting Hole ϕ 8.2

This drawing is for DS-408

⊃)S-412 2 P





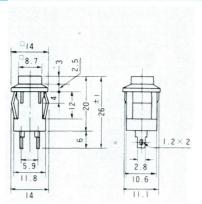
CIRCUIT	SPST (2P)
SWITCHING FUNCTION	OFF-(ON) (Momentary)
RATING	3A. 125V. AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute
COLOR	Red, White

Mounting Hole ϕ 17.8

DS-430 2 P DS-431 2 P



Mounting Hole 12.4×11.2 Pannel Thickness $1 \sim 2.5$

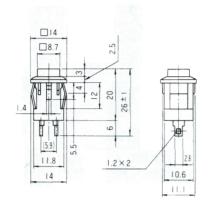


PARTS NO	CIRCUIT	TERMINAL	SWITCHING FUNCTION
DS-430	SPST	2P	OFF-(ON)(Momentary)
DS-431	SPST	2P	ON-(OFF)(Momentary)
		_	
RATING	1A. 125V. AC, 0.5A. 250V. AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC. 500V. 100M(MIN)		
VOLTAGE BREAKDOWN	AC. 1500V. 1Minute		
COLOR	Red, Black, White		

DS-432 2 P



Mounting Hole 12.4×11.2 Pannel Thickness $1 \sim 2.5$

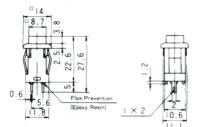


CIRCUIT	SPST (2P)
SWITCHING FUNCTION	OFF-(ON) (Momentary)
RATING	1A. 125V. AC, 0.5A. 250V. AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	AC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1500V. 1Minute
COLOR	Red, White, Black

DS-435-S 2 P DS-435 E-S 2 P DS-435-P 2 P DS-435 E-P 2 P



Mounting Hole 12.4×11.2 Pannel Thickness $1.5\sim3$



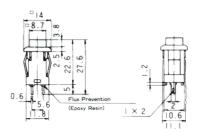
This drawing is for DS-435-S

CIRCUIT	SPST (2P)
SWITCHING FUNCTION	ON-OFF (Alternate)
RATING	3A. 125V. AC, 1A. 250V. AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1500V. 1Minute
COLOR	Red, White, Black

DS-436-S 2 P DS-436 E-S 2 P DS-436-P 2 P DS-436 E-P 2 P



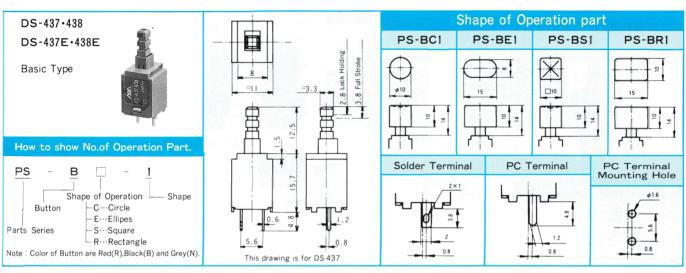
Mounting Hole 12.4×11.2 Pannel Thickness $1.5\sim3$



This drawing is for DS-436-S

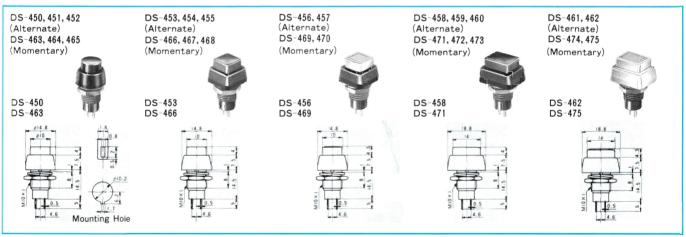
CIRCUIT	SPST (2P)
SWITCHING FUNCTION	OFF-(ON) (Momentary)
RATING	3A. 125V. AC, 1A. 250V. AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1500V. 1Minute
COLOR	Red, Black, White

DS-437-438 SERIES



PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
DS-437S						
DS-437P		OFF-ON				
DS-437ES		Alternate				
DS~437EP				DC.500V		
DS-438S	CDCT (OD)		3A.125V.AC	100ΜΩ	AC.1500V	DC.2.5V.1A
DS-438P	SPST (2P)	OFF-(ON)	1A.250V.AC	(MIN)	1 Minute	$20m\Omega(MAX)$
DS-438ES		Momentary				
DS-438EP						

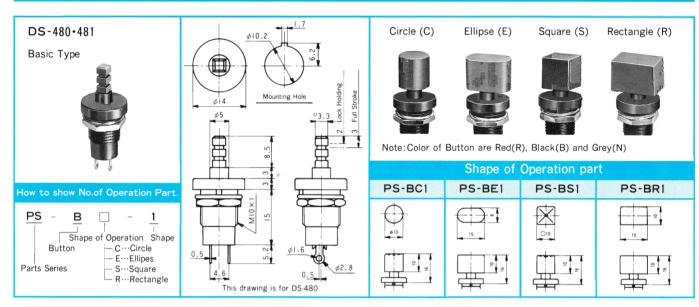
P-SERIES MIDGET PUSH-BUTTON SWITCHES



PARTS NO	BUTTON TYPE	BUTTON COLOR OR TREATMENT	FRAME COLOR OR TREATMENT	PARTS NO	BUTTON TYPE	BUTTON COLOR OR TREATMENT	FRAME COLOR OR TREATMENT
DS-450 DS-463	Round Type	Red,Black,White	Black Mould	DS-457 DS-470	Square Type	Notching Metal Plated	Metal Plated
DS-451 DS-464	Round Type	Metal Plated	Black Mould	DS-458 DS-471	Rectangular	Red,Black,White	Black Mould
DS-452 DS-465	Round Type	Metal Plated	Metal Plated	DS-459 DS-472	Rectangular	Metal Plated	Black Mould
DS-453 DS-466	Square Type	Red,Black,White	Black Mould	DS-460 DS-473	Rectangular	Metal Plated	Metal Plated
DS-454 DS-467	Square Type	Metal Plated	Black Mould	DS-461 DS-474	Rectangular	Notching Metal Plated	Black Mould
DS-455 DS-468	Square Type	Metal Plated	Metal Plated	DS-462 DS-475	Rectangular	Notching Metal Plated	Metal Plated
DS-456 DS-469	Square Type	Notching Metal Plated	Black Mould				

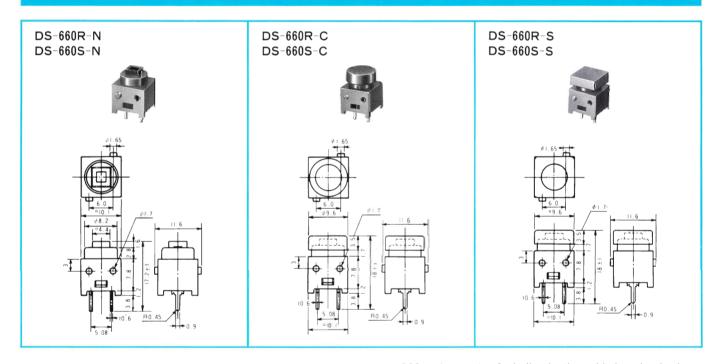
PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOTLAGE BREAKDOWN	CONTACT RESISTANCE
DS-450~462		OFF-ON	3A,125V,AC	DC.500V	AC.1500V	DC.2.5V 1A
DS-463~475	SPST(2P)	OFF-(ON)	1A,250V,AC	$100 M\Omega(MIN)$	1Minute	20mΩ(MAX)

DS-480 • 48 | SERIES



PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOTLAGE BREAKDOWN	CONTACT RESISTANCE
DS-480	CDCT (2D)	OFF-ON	3A. 125V. AC	DC. 500V	AC. 1500V	DC. 2.5V. 1A
DS-481	SPST (2P)	OFF-(ON)	1A. 250V. AC	100M Ω (MIN)	1 Minute	20mΩ(M AX)

DS-660-SERIES MIDGET PUSH-ON SWITCHES





660 series made of wholly plastic and being simple shape have feature of soft touch. They have P.C. terminals and can be mounted continuously as photograph.In case of 660R type, contact is recognized by click feeling when push button, There are types of non-button (N), circle (C'), and square (S), and color of Red, Black and White.

PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOTLAGE BREAKDOWN	CONTACT RESISTANCE
DS-660 R-N DS-660 R-C DS-660 R-S DS-660 S-N DS-660 S-C DS-660 S-S	SPST(2P)	OFF-(ON) Momentary	1A.125V.AC	DC.500V 100MΩ(MIN)	AC.1000V 1 Minute	20mΩ(MA X)

DS-670.680,681 SERIES

DS-670

Basic Type

DS-680



DS-681 Basic Type



ORDERING INFORMATION

DS-670

1 ①Serise No

Square(S)

DS-670 DS-680 DS-681

K S

- 2 Code of Switching Fanction
 - L...SPST (Momentary Type) A···SPDT(Alternate Type) B···SPDT (Momentary Type)

K···SPST (Alternate Type)

- ③ Shape of Terminal
 - S...Solder Terminal F...Tab Terminal (#187)
 - P···PC Terminal





Rectangle(R)



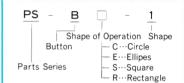
Circle (C)



Ellipse (E)

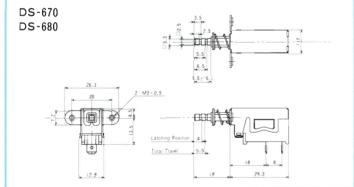


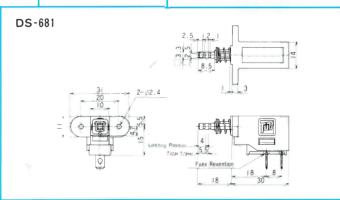
Outline drawing of Button



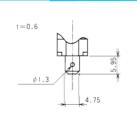
How to show No.of Operation Part.

Note:Color of Button are Red(R),Black(B) and Grey(N).

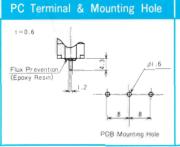




Solder	Terminal	
t=0.6		
Flux Prevention (Epoxy Resin)	2.	© © 5×2



Tab Terminal (#187)



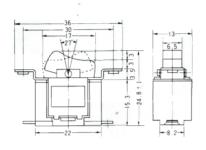


PARTS NO	CIRCUIT	SWITCHING FUNCTION	PATING	INSULATION RESISTANC	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
DS-670 K DS-670 L DS-670 A DS-670 B	SPST (2P) SPST (2P) SPDT (3P) SPDT (3P)	OFF-ON OFF-(ON) ON-ON ON-(ON)	3A.125V.AC 1A.250V.A	DC.500V	AC 1500V	
DS-680 K DS-680 L DS-680 A DS-680 B	SPST (2P) SPST (2P) SPDT (3P) SPDT (3P)	OFF-ON OFF-(ON) ON-ON ON-(ON)	15A.125V.AC 10A.250V.AC	100MΩ (MIN)	l Minute	DC.2.5V.1A 20mΩ (MAX)
DS-68 K DS-68 L	SPST (2P) SPST (2P)	OFF-ON OFF-(ON)	15A.125V.AC 10A.250V.AC TÜV 10(6)A,250V,~	DC.500V 100MΩ (MIN)	Between the terminal AC 2000V Between the terminal and actuater AC 4000V I Minute	

ROCKER SWITCHES

DS-004 2 P CAT. NO. 3 A 1

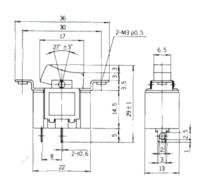




CIRCUIT	SPST (2P)
SWITCHING FUNCTION	ON-OFF
RATING	10A. 125V. AC, 6A. 250V. AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1500V. 1Minute
COLOR	Gray(with Black Dot)

DS-004 E 2 P

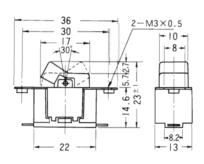




CIRCUIT	SPST (2P)
SWITCHING FUNCTION	ON-OFF
RATING	10A. 125V. AC, 6A. 250V. AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1500V. 1Minute
COLOR	Gray(with Black Dot)

DS-005 2 P CAT. NO. 3B2

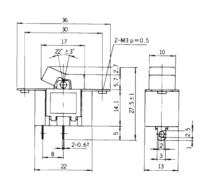




CIRCUIT	SPST (2P)
SWITCHING FUNCTION	ON-OFF
RATING	6A. 250V. AC
CONTACT RESISTANCE	10mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1500V. 1Minute
COLOR	Black

DS-005 E 2 P

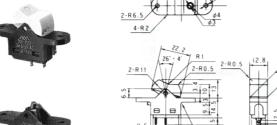




CIRCUIT	SPST (2P)
SWITCHING FUNCTION	ON-OFF
RATING	10A. 125V. AC, 6A. 250V. AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1500V. 1Minute
COLOR	Black

DS-023 2 P





CIRCUIT	SPST 〈2P〉
SWITCHING FUNCTION	ON-OFF
RATING	3A.125V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1000V.1Minute
COLOR	Red,Black,White,Pink,Green

DS-059 SERIES ROCKER SWITCHES

*This product is circular type Rocker Switch made of whole plastic designed by our own paying special attention to electric safety.





DS-059-S-ON



0.6

0.8

R10.9

ORDERING INFOMATION

DS-059-A-WD ① ② ③

①Serise No. DS-059

②Code of Switching Fanction

K······SPST(ON-OFF) A······SPDT(ON-ON)

S······DPST (ON-OFF)

F······DPDT (ON-ON)

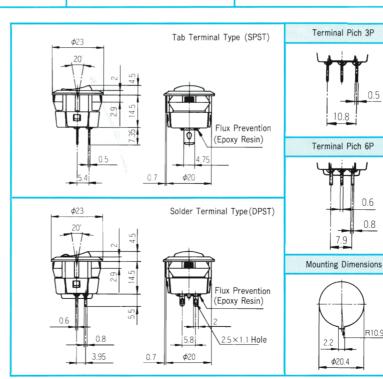
(3)Shape of Operation Parts

00 without Symbol BS..... ϕ 3 Projection

WD with Symbol-Dot ON with Symbol (ON, OFF or ON, ON)

•Button colors are 2 of Red and Black as standard.

•Terminal shape of K (SPST) and S(DPST) are available both Tab #187 series and solder, and A(SPDT) and F(DPDT) are solder only.



PARTS NO	CIRCUIT	SWITCHING FUNCTION	PATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
DS-059K	SPST (2P)	ON-OFF				
DS-059A	SPDT(3P)	ON-ON	5A.125V.AC	DC.500V	AC.1500V	DC.2.5V.1A
DS-059S	DPST(4P)	ON-OFF	3A.250V.AC	$100M\Omega(MIN)$	IMinute	$20m\Omega(MAX)$
DS-059F	DPDT(6P)	ON-ON				

DS-062 2P (K)

DS-063 2P (G)

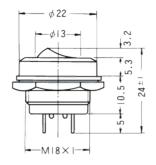
DS-064 3P (K)

DS-065 3P (G)

DS-068 6P (K)

DS-069 6P (G)





PARTS NO	CIRCUIT	TERMINAL	SWITCHINE FUNCTION
DS-062,063	SPST	2P	ON-OFF
DS-064,065	SPDT	3P	ON-ON
DS-068,069	DPDT	6P	ON-ON
RATING	3A.250V.AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)		
VOLTAGE BREAKDOWN	AC.1500V.1Minute		
COLOR	Red Black		

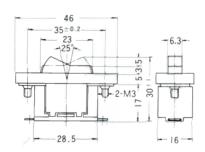
Frame Color • • • Black(K)

· · · Gold (G)

Mounting Hole ϕ 18.2

DS-125 2 P

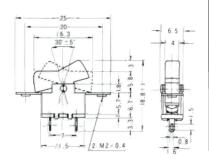




CIRCUIT	SPST <2P>
SWITCHING FUNCTION	ON-OFF
RATING	10A.125V.AC,6A.250V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1500V.1Minute
COLOR	Cream(Lettering: ON-OFF)

MS-284 2 P

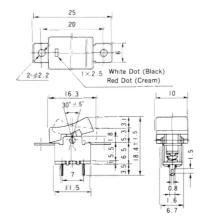




CIRCUIT	SPST 〈2P〉
SWITCHING FUNCTION	ON-OFF
RATING	1A.125V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	$DC.500V.100M\Omega(MIN)$
VOLTAGE BREAKDOWN	AC.1000V.1Minute
COLOR	Black,(with White Dot)

MS-284 A,B,2 P
-A With Screwthread
-B Without Screwthread



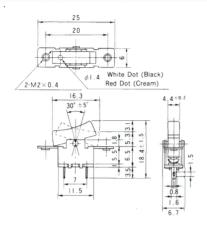


CIRCUIT	SPST (2P)
SWITCHING FUNCTION	ON-OFF
RATING	1A.125V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1000V.1Minute
COLOR	Black,(with White Dot)(Cream with Red Dot)

MS-284 C,D 2P

- -C With Screwthread
- -D Without Screwthread

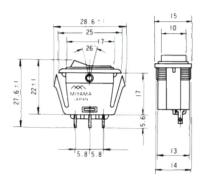




CIRCUIT	SPST <2P>
SWITCHING FUNCTION	ON-OFF
RATING	1A.125V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1000V.1Minute
COLOR	Black,(with White Dot)(Cream with Red Dot)

DS-379 2 P DS-380 3 P MS-381 6 P



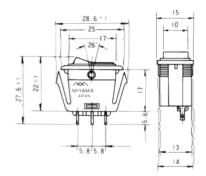


This	drawing	is	for	DS-	-380
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PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION
DS-379	SPST	2P	ON-OFF
DS-380	SPDT	3P	ON-ON
MS-381	DPDT	6P	ON-ON
RATING	6A.125V.AC,3A.250V.AC		
CONTACT RESISTANCE	10mΩ(MAX)		
INSULATION RESISTANCE	DC.500V.1000MΩ(MIN)		
VOLTAGE BREAKDOWN	AC.1500V.1Minute		
COLOR	Red White		

DS-385 2 P DS-386 3 P



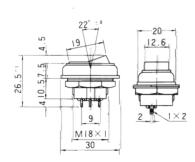


This drawing is for DS-386

PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION	
DS-385	SPST	2P	ON-OFF	
DS-386	SPDT	3P	ON-ON	
RATING	6A.125V.AC,3A.250V.AC			
CONTACT RESISTANCE	10mΩ(MAX)			
INSULATION RESISTANCE	DC.500V.1000MΩ(MIN)			
VOLTAGE BREAKDOWN	AC.1500V.1Minute			
COLOR	Black,(with White Dot)			

DS-388 2 P DS-389 3 P



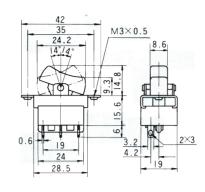


PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION
DS-388	SPST	2P	ON-OFF
DS-389	SPDT	3P	ON-ON
RATING	6A.125V.AC		
CONTACT RESISTANCE	20mΩ(MAX)		
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)		
VOLTAGE BREAKDOWN	AC.1000V.1Minute		
COLOR	Cream		

This drawing is for DS-389

DS-403 2 P DS-404 3 P DS-405 CO-3 P DS-406 6 P DS-407 CO-6 P





This drawing is for DS-404	This	drawing	is	for	DS-404
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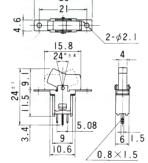
PARTS NO	CIRCUIT	TERMINAL	SWICHING FUNCTION	
DS-403	SPST	2P	ON-OFF	
DS-404	CDDT	3P	ON-ON	
DS-405	SPDT	35	ON-OFF-ON	
DS-406	DPDT	6P	ON-ON	
DS-407	L DPD1	OF	ON-OFF-ON	
RATING	10A. 125V. AC			
CONTACT RESISTANCE	20mΩ(MAX)			
INSULATION RESISTANCE	DC. 500V. 100M(MIN)			
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute			
COLOR	Black			

MS-630, 640-SERIES ROCKER SWITCHES

DS-630 series is super miniature Rocker Switch, developed for use of power source with rating of 3A 125V. AC. DS-640 series is super miniature Rocker Switch, developed for use of low current (0.3A 125V.AC.) and made able to be mounted on P.C. board.

MS-630K MS-630A MS-630F

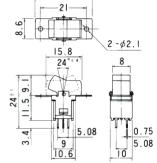




This drawing is for MS-630A

MS-640K MS-640A MS-640F





This drawing is for MS-640F

PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE	
MS-630 K	SPST <2P>	ON-OFF		DC.500V	AC.1000V	2.5V.100mA	
MS-630 A	SPDT <3P>	ON-ON	3A.125V.AC	3A.125V.AC		1 Minute	2.5 V .100MA 20mΩ(MAX)
MS-630 F	DPDT (6P)	ON-ON		100MΩ(MIN)	1 Williate	2011122(WIAX)	
MS-640 K	SPST <2P>	ON-OFF	0.3A.125V.AC	DC.500V	AC.1000V	2.5V.100mA	
MS-640 A	SPDT <3P>	ON-ON			1 Minute	2.5 V .100mA 20mΩ(MAX)	
MS-640 F	DPDT <6P>	ON-ON		100MΩ(MIN)	1 Milliute	201112(WAX)	

DS-850 SERISE

ORDERING INFORMATION

①Serise No DS-850 ②Code of Swiching Functione

 $\mathsf{K}\text{-----}\mathsf{ON}\text{-}\mathsf{OFF}(\mathsf{SPST})$

S······ON-OFF (DPST)

3Shape of Terminal

S.....Solder Terminal

 $F_1 \cdots Tab Terminal(#110)$

 F_2 Tab Terminal (#187)

(4)Shape of Operation Part

LED.....LED Illminated

00 Without Symbol

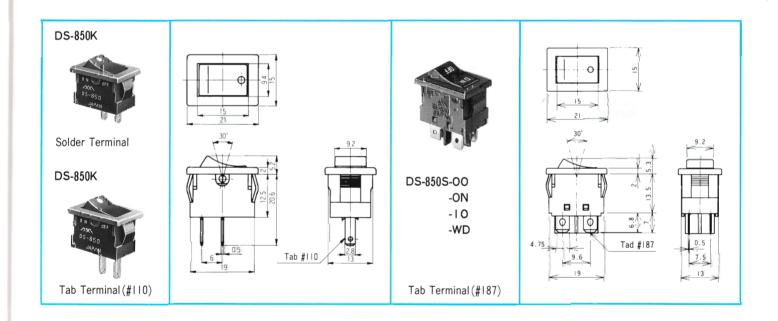
WD.....With Symbol-Dot

ON With Symbol-ON, OFF

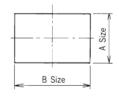
IO······With Symbol-I 0

OK(SPST)is for use of Tab Terminal #110 and Solder Terminal.

OS(DPDT) is for use of Tab Terminal #187 only.



CASE COLOR	KNOB COLOR
Black Case	Black Knob
White Case	White Knob
Gray Case	Gray Knob

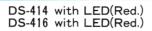


Example Dimension of Mounting Hole

Panel Thickness	A Size	B Size
1mm		19.1 ^{+ 0.2} mm
1.5mm	+02	19.2 ^{+ 0.2} mm
2mm	13 ^{+ 0.2} mm	19.4 ^{+ 0.2} mm
2.5mm		19.6 ^{+ 0.2} mm

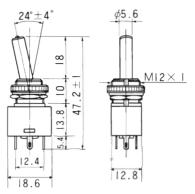
PARTS NO	CIRCUIT	SWITCHING FUNCTION	PATING	INSULATION RESESTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
DS-850K-□-00 DS-850K-□-WD DS-850K-□-0N	SPST	ON OFF	5A.125V.AC 3A.250V.AC	DC.500V 100MΩ(MIN)	AC.1500V 1Minute	DC.2.5V.1A
DS-850S-F ₂ -00 DS-850S-F ₂ -WD DS-850S-F ₂ -ON DS-850S-F ₂ -10	DPST	ON-OFF	10A.250V.AC.	DC.500V 200M Ω (MIN)	AC.2000V 1 Minute	20mΩ(MA X)

TOGGLE SWITCHES









This drawing is for DS-416

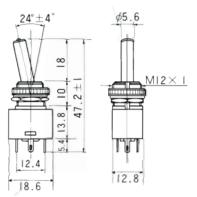
PARTS NO	CIRCUIT	TERMINAL	SWICHING	FUNCTION	
DS-414	SPST	2P	ON-	-OFF	
DS-416	SPDT	3P	ON	-ON	
-					
RATING	3A. 125V. AC				
CONTACT RESISTANCE 20mΩ(MAX)					
INSULATION RESISTANCE DC. 500V. 100M(MIN)					
VOLTAGE BREAKDOWN AC. 1000V. 1Minute					
COMPLETED AL Spin Processing(LED, Red.)					
ABSOLUTE MAXIMUM RATINGS IF = 20mA. Ta = 25					
001.00	VB00 B1 W0	001.00	VP(V)	Cd(med)	

ABSOLUTE	MAXIMUM			IF = 2	20mA. T	$a = 25^{\circ}C$		
COLOR	IF(mA)	VR(V)	P(mW)	COLOR	VP(V)		Cd(med)	
COLOR	II (IIIA)	VI(V)	F(IIIVV)	COLOR	Тур	Max	Min	Тур
Red	40	4	80	Red		1.7		2.1

DS-415 with LED(Green) DS-417 with LED(Green)



Mounting Hole ϕ 12.3



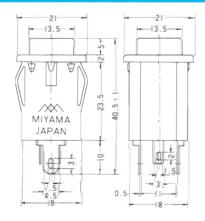
This drawing	is	for	DS-417
--------------	----	-----	--------

[PARTS	S NO	CIRCUIT			EDMINIAL	SWITCHI	NO ELIA	ICTION
	-ARI	3 110	CIF	COII	'	CKIVIIINAL	SWITCHI	NG FUN	ICTION
	DS-4	115	S	PST		2P	10	1-OF	F
	DS-4	117	S	PDT		3P	01	N-0N	l
	RATIN	G	3A. 125V. AC						
	CONTACT RESISTANCE 20mΩ(MAX)								
	INSULAT RESISTA		DC. 500V. 100MΩ(MIN)						
	VOLTAG BREAKD		AC. 1000V. 1Minute						
	COMPLE	TED	AL Spin Processing(LED, Green.)						
	ABSOLUTE MAXIMUM RATINGS IF = 20mA. Ta = 2						a =25°C		
	COLOR	IF(mA)	VR(V)	P(mW)	COLO)B ——	VP(V)		ned)
ł	Green	30	5	85	Gree	n Typ	2.0	Min	Typ 1.4

PUSH BUTTON SWITCHES

MS-078 2 P (with 6.3 V Lamp)

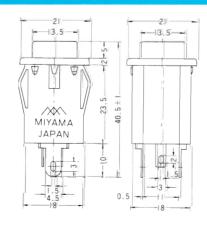




CIRCUIT	SPST(2P)	
SWITCHING FUNCTION	OFF-(ON) (Momentary)	
RATING	1A.125V.AC	
CONTACT RESISTANCE	20mΩ(MAX)	
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)	
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute	
COLOR	Red, White, Yellsw, Blue, Green	

MS-080 2 P (with 6.3 V Lamp)



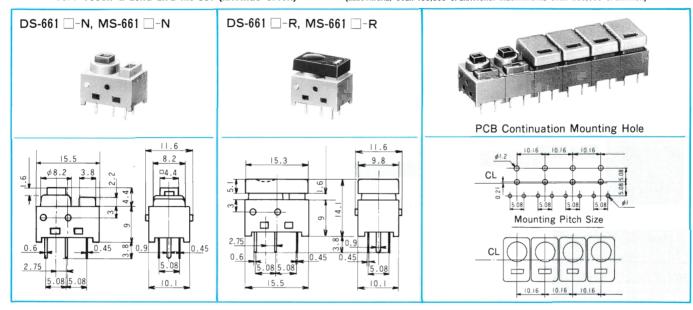


CIRCUIT	SPST(2P)	
SWITCHING FUNCTION	ON-(OFF) (Momentary)	
RATING	1A.125V.AC	
CONTACT RESISTANCE	20mΩ(MAX)	
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)	
VOLTAGE BREAKDOWN	AC. 1000V. 15/mute	
COLOR	Red, White, Yellow, Green, Plue,	

DS-66 I • MS-66 I SERIES ILLUMINATED MIDGET PUSH-ON SWITCHES

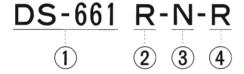
SOFT TOUCH & LONG LIFE DS-661 (RATINGS 1A, 125V, AC)
SOFT TOUCH & LONG LIFE MS-661 (RATINGS 0.4VA)

(ELECTRICAL, OVER 30,000 OPERATIONS. MECHANICAL, OVER 200,000 OPERATION)
(ELECTRICAL, OVER 100,000 OPERATIONS. MECHANICAL, OVER 200,000 OPERATION)



- *This series of products is developed for use of PCB, combined with both switch and illumination (LED) parts on the whole plastic body. Each terminals are arranged with inch-pitch size, and therefore they can easily be mounted on PCB with same size available in the market, at single body or continuously as photo.
- *The ratings are 1A, 125V, AC at DS-661 and 0.4VA (20mV \sim 28V. 0.1mA \sim 50mA) at MS-661, and switching functions are PUSH-ON (Momentary) type.
- *LED is used as illumination with 3 colors of Red (with Red diffuser), Green (with Green diffuser) and Yellow (with Millky White diffuser).
- *Button colors are Black, Grey and Blue as standard, but others are also acceptable as special order.
- *They have feature of soft touch with 2 types of R (turn-over type by rubber) and S (by spring) and in case of R type contact is recognized with click feeling when push button.

ORDERING INFORMATION



①Series Number \cdots DS-661 (1A, 125V,AC), MS-661(0.4VA, 0.1mA \sim 50mA, 20mV \sim 28V) ②Click Feeling \cdots R(With Click Feeling), S(Without Click

Feeling), S(Without Click Feeling), S(Without Click Feeling)

③Push Button Type·····N (Without Button),
R (Rectangle)

(4)LED ColorR (Red), G (Green), Y(Yellow)

O Button color ·····Red or Black

LED SPECIFICATION

	111011
TEMPERATURE	Ta=25°C
COLOR	Red,Green,Yellow
REVERSE VOLTAGE	4V
FORWARD VOLTAGE	0.11/
VF(IF=20mA)	2.1V
FORWARD CURRENT	25mA
APPROVAL CURRENT	20mA

PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	LNSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
DS-661R-N						
DS-661R-R			14 1051/40			
DS-661S-N			1A.125V.AC			20 0(144.4.V.)
DS-661S-R	CDCT/OD)	OFF-(ON)		DC.500V	AC.1000V	20mΩ(MAX)
MS-661R-N	SPST(2P)	Momentary	0.41/4	$100 M\Omega(MIN)$	1 M inute	FOO(MAY)
MS-661R-R		•	0.4VA			50mΩ(MA X)
MS-661S-N			20mV~28V			
MS-661S-R			(0.1mA~50mA)			

DS-700.710 SERIES PUSH-BUTTON SWITCHES

DS-700, 710

-L-1-C (Gold Label)

-F-1-C (Silver Label)

DS-700, 710

-L-1-S (Gold Label) -F-1-S (Silver Label) DS-700, 710

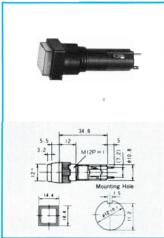
-L-2-C (Gold Label)

DS-700, 710

-L-2-S (Gold Label)











ORDERING INFORMATION

DS-700 (1)

(2)

(3)

C (4)

①Serise No **2**Kind of Applicable Illuminater

DS-700

L...LED

DS-710 F...Filament Lamp ${\it \ \, } \\ {\it \$

1···1Pole(SPDT) 2···2Poles(DPDT) (4)Shape of Push Button

C...Circle Shape S...Square Shape

Labels to be put on the body are 4 kinds of following.

DS - 700 (Gold Label) —Alternate type for LED DS - 700 (Silver Label) —Alternate type for Filament Lamp

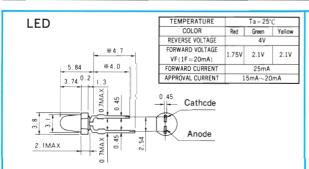
DS - 710 (Gold Label) —Momentary type for LED

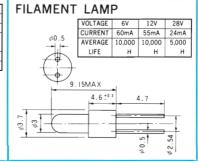
DS - 710 (Silver Label) — Momentary type for Filament Lamp

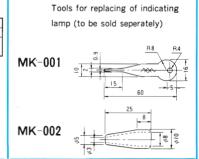
Please designate for with lamp or without lamp.

PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
DS-700-L,F	SPDT	ON-ON Alternate	1A.250V.AC	DC.500V	AC.1500V	10mΩ(MAX)
DS-710-L,F	DPDT	ON-(ON)Momentary	3A.125V.AC	$100M\Omega(MIN)$	1Minute	1011122(18177)

PARTS NO.	INDICATING LAMP	CIRCUIT	BUTTON TYPE	COLOR	HOW TO DESIGNATE
DS-700	L(LED)	SPDT(3P)	C(Circle)	Red.Yellow.Green	-L-1-C(For Circle shape LED. 1 Circuit)
DS-710	L(LED)	DPDT(6P)	C(Circle)	Red.Yellow.Green	-L-2-C(For Circle shape LED. 2 Circuit)
(Gold)	L(LED)	SPDT(3P)	S(Square)	Red.Yellow.Green	-L-1-S(For Square shape LED. 1 Circuit)
\Label/	L(LED)	DPDT(6P)	S(Square)	Red.Yellow.Green.	-L-2-S(For Square shape LED. 2 Circuit)
DS-700	F(Filament Lamp)	SPDT(3P)	C(Circle)	Red.White.Yellow.Green.Blue	-F-1-C(For Circle shape Filament Lamp, 1 Circuit)
DS-710	F(Filament Lamp)	DPDT(6P)	C(Circle)	Red.White.Yellow.Green.Blue	-F-2-C(For Circle shape Filament Lamp, 2 Circuit)
Silver	F(Filament Lamp)	SPDT(3P)	S(Square)	Red.White.Yellow.Green.Blue	~F-1-S(For Square shape Filament Lamp, 1 Circuit)
\ Label /	F(Filament Lamp)	DPDT(6P)	S(Square)	Red.White.Yellow.Green.Blue	-F-2-S(For Square shape Filament Lamp, 2 Circuit)







MS-720,730 ILLUMINATED PUSH BUTTON SWITCH SERIES

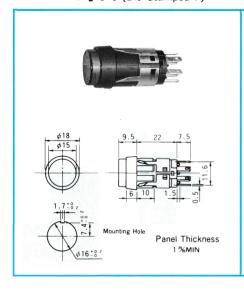
MS-720 (Alternate) MS-730 (Momentary)

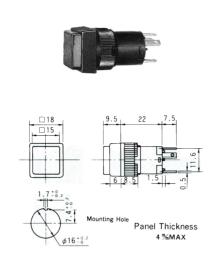
-L-2-C-O (Die-Stamped-L) -F-2-C-O (Die-Stamped-F) MS-720 (Alternate) MS-730 (Momentary) -L-1-S-N (Gold Label)

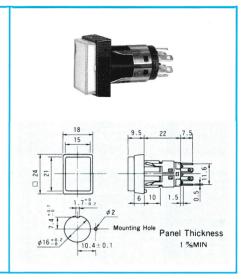
-F-1-S-N (Silver Label)

MS-720 (Aoternate) MS-730 (Momentary) -L-2-R-O (Die-Stamped-L)

-F-2-R-O (Die-Stamped-F)







ORDERING INFORMATION

$$\frac{\text{MS-720}}{ \textcircled{1}} \quad - \quad \underline{\text{L}} \quad - \quad \underline{\text{1}} \quad - \quad \underline{\text{C}} \quad - \quad \underline{\text{N}} \quad - \quad \boxed{\text{Color}} \quad - \quad \boxed{\text{Voltage Select}}$$

①Series No. ②Kind of Applicable Indecater ③Circuit

MS-720

L···LED.

1···1Pole(SPDT)

♠Shape of Push Button C···Circle Shape.

. R...Rectangle Shape.

MS-730 F...Filament Lamp.

2····2Pole(DPDT)

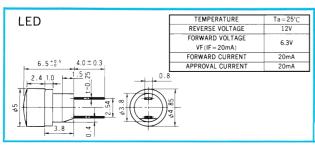
S...Square Shape.

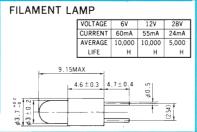
5Munting Nut N...with Nut.

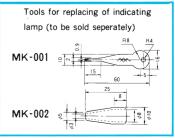
Color

PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
MS-720-L,F	SPDT	ON-ON(Alternate)	1A.250V.AC	DC.500V	AC.1500V	20mΩ(MAX)
MS-730-L,F	DPDT	ON-(ON)(Momentary)	3A.125V.AC	$100M\Omega(MIN)$	1 Minute	2011142(141777)

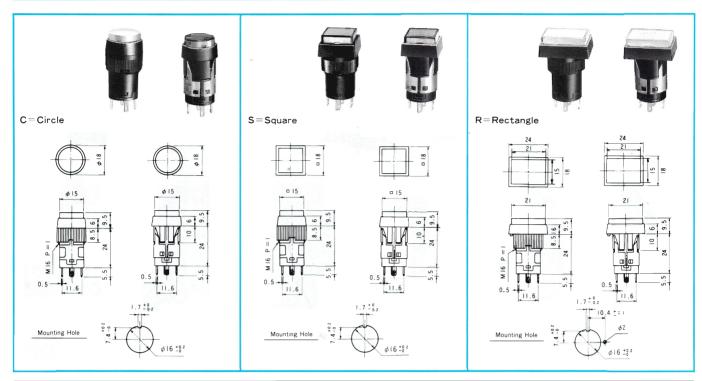
PARTS NO.	INDICATING LAMP	CIRCUIT	BUTTON TYPE	HOW TO MOUNT	COLOR	HOW TO DESIGNATE
MS-720	L(LED)	SPDT(3P)	C(Circle)	/ 14 15 \		-L-1-C [™] (For Circle shape LED. 1 Circuit)
MS-730	L(LED)	DPDT(6P)	C(Circle)	(-N Mounting with Nut	5 17 11	-L-2-C % (For Circle shape LED. 2 Circuit)
(Gold \	L(LED)	SPDT(3P)	S(Square)	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Red.Yellow. Green	-L-1-S ♂ (For Square shape LED. 1 Circuit)
\Label/	L(LED)	DPDT(6P)	S(Square)	/ Mounting \		-L-2-S ♂ (For Square shape LED. 2 Circuit)
(Die- Stamped-L)	L(LED)	SPDT(3P)	R(Rectangle)	O with One		-L-1-R ♂ (For Rectangle shape LED. 1 Circuit)
(Gramped 2)	L(LED)	DPDT(6P)	R(Rectangle)	\ Motion /		-L-2-R % (For Rectangle shape LED. 2 Circuit)
MS-720	F(Filament Lamp)	SPDT(3P)	C(Circle)	(M !!)	-	-F-1-C ♂ (For Circle shape Filament Lamp, 1 Circuit)
MS-730	F(Filament Lamp)	DPDT(6P)	C(Circle)	(-N Mounting with Nut	B 1344.5	-F-2-C ♂ (For Circle shape Filament Lamp, 2 Circuit)
/Silver	F(Filament Lamp)	SPDT(3P)	S(Square)	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Red.White Yellow.	-F-1-S ♂ (For Square shape Filament Lamp, 1 Circuit)
\Label /	F(Filament Lamp)	DPDT(6P)	S(Square)	/ Mounting \	Green.Blue	-F-2-S ♂ (For Square shape Filament Lamp, 2 Circuit)
(Die- Stamped-F)	F(Filament Lamp)	SPDT(3P)	R(Rectangle)	O with One		-F-1-R ♂ (For Rectangle shape Filament Lamp, 1 Circuit)
	F(Filament Lamp)	DPDT(6P)	R(Rectangle)	\ Motion /		-F-2-R ♂ (For Rectangle shape Filament Lamp, 2 Circuit)







DS-721(ALTERNATE) DS-731(MOMENTARY) PUSH BUTTON SWITCHES



PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
DS-721	SPST(2P)	OFF-ON (Alternate)	10A.125V.AC	DC.500V	AC.1500V	DC.2.5V.1A
DS-731	SPST(2P)	OFF-(ON)(Momentary)	6A.250V.AC	100MΩ(MIN)	1 Minute	20mΩ(MAX)

Note This Series prease refer MS-720 · 730 Series ordering information. (P43)

MS-800,810 MIDGET ILLUMINATED PUSH BUTTON SWITCH



MS-800 - D - 2 - S - L - C color chip - 12 .6 ± 0 . 1

①Series NO. ②Sw

F...Filament Lamp

②Switching Function

③Pole

④Shape of Terminal S…Solder Terminal

 $\mbox{MS-800}$ $\mbox{ 6Kind from code A to F.}$ $\mbox{MS-810}$

F. 1···1Pole(SPDT) 2···2Pole(DPDT)

S...Solder Termin P...PC Terminal

⑤Kind of applicable Indicater ⑥Munting Plate L…LED C…with Snape

C...with Snape-In Plate
P...without Snape-In Plate

EXAMPLE OF EXTERNAL CONNECTION

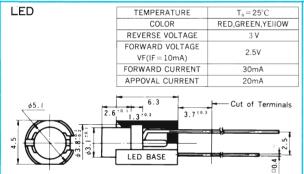
COLOR PLATE ON BOTTOM OF SWITCH				
Illuminater	Color Chip Plate			
LED	Blue			
Filament Lamp 6V	Red			
Filament Lamp 12V	Green			
Filament Lamp 28V	White			

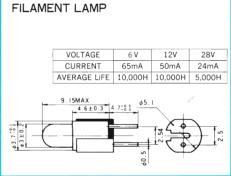
• MS-810 is Miniature Push Button Switch series which only ommits illuminating function from MS-800. Other specifications are quite same as MS-800 series.

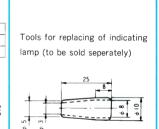
PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISITANCE
-A	DPST	OFF-ON				
-B	DPST	OFF-(ON)				DC.2.5V
MS-800 -C	DPST	ON-OFF	0.1A.30V.DC	DC.500V	AC.500V	10mA
MS-810 -D	DPST	ON-(OFF)	0.1A.30V.DC	500 M Ω (MIN)	(1Minute)	
-E	SPDT	ON-ON				20 m Ω (MAX)
-F	SPDT	ON-(ON)				

MS-800.810 MIDGET ILLUMINATED PUSH BUTTON SWITCH

PARTS	SWITCHING FUNCTION & CODE				=	CIRCUIT	TERMINAL	INDICATING	HOW TO MOUNT	COLOR	
NO	OFF-ON	OFF- (ON)	ON-OFF	OFF (ON)	ON-ON	ON-(ON)		TYPE	LAMP		COLOR
MS-800					E	F	1	S(Solder)	L(LED)	C With Snap-in Plate P Without Snap-in Plate	Red,Green,Yellow
MS-800					E	F	1	S(Solder)	F (Filament Lamp)	C With Snap-in Plate P Without Snap-in Plate	Red,White,Yellow, Blue,Green
MS-800					E	F	1	P(PC)	L(LED)	C With Snap-in Plate P Without Snap-in Plate	Red,Green,Yellow
MS-800					E	F	1	P(PC)	F (Filament Lamp)	C With Snap in Plate P Without Snap in Plate	Red,White,Yellow, Blue,Green
MS-800	Α	В	С	D			2	S(Solder)	L(LED)	C With Snap-in Plate P Without Snap-in Plate	Red,Green,Yellow
MS-800	А	В	С	D			2	S(Solder)	F (Filament Lamp)	C With Snap in Plate P Without Snap in Plate	Red,White,Yellow, Blue,Green
MS-800	Α	В	С	D			2	P(PC)	L(LED)	C With Snap in Plate P Without Snap in Plate	Red,Green,Yellow
MS-800	Α	В	С	D			2	P(PC)	F (Filament Lamp)	C With Snap in Plate P Without Snap in Plate	Red,White,Yellow, Blue,Green
MS-800					E	F	1	S(Solder)		C With Snap-in Plate P Without Snap-in Plate	Red,White,Yellow, Blue,Green
MS-800					E	F	1	P(PC)		C With Snap-in Plate P Without Snap-in Plate	Red,White,Yellow, Blue,Green
MS-800	Α	В	С	D			2	S(Solder)		C With Snap-in Plate P Without Snap-in Plate	Red,White,Yellow, Blue,Green
MS-800	Α	В	С	D			2	P(PC)		C With Snap in Plate P Without Snap in Plate	Red,White,Yellow, Blue,Green





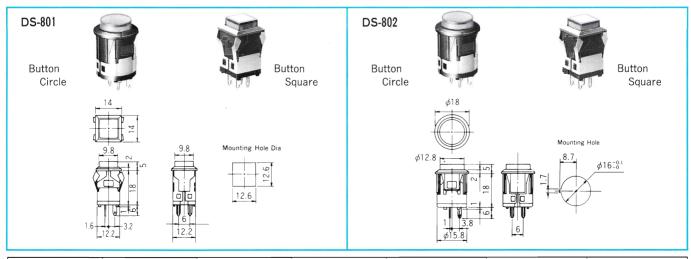


MK-002

DS-801(ALTERNATE), DS-802(MOMENTARY) PUSH BUTTON SWITCHES

As sister series of MS-800 (Alternate) and MS-810 (Momentary), which have been having high reputation with their refined design and low price due to mass-production system, we have much pleasure in introducing our model of DS-801, 802 series with 1 circuit and 1 contact (SPST), but this series have no product with LED.

- *Thickness of pannel to be mounted: $1\sim2.5$ mm (Recommended thickness: $1.5\sim2$ mm)
- * Select among 6V, 12V, & 28V Filament Lamp.

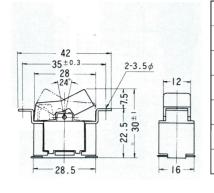


PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
DS-801	SPST(2P)	OFF-ON Alternate	3A.125V.AC	DC,500V	AC.1500V	DC.2.5V.1A
DS-802	SPST(2P)	OFF-(ON)Momentary	1A.250V.AC	100MΩ(MIN)	1 M inute	20mΩ(MAX)

ROCKER SWITCHES

DS-026 2 P



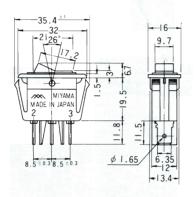


CIRCUIT	SPST (2P)
SWITCHING FUNCTION	ON-OFF
RATING	10A.125V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute
COLOR	Clear White

With Neon Lamp

DS-322 A 2 P



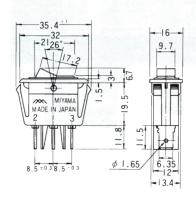


CIRCUIT	SPST (2P)
SWITCHING FUNCTION	ON-OFF
RATING	15A.125V.AC
CONTACT RESISTANCE	20mΩ(M AX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute
COLOR	Clear Orange

With Neon Lamp

DS-323 2 P

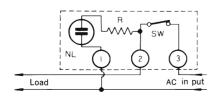




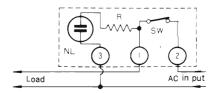
CIRCUIT	SPST (2P)
SWITCHING FUNCTION	ON-OFF
RATING	6A.250V.AC
CONTACT RESISTANCE	20mΩ(M AX)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1500V. 1Minute
COLOR	Clear Orange

With Neon Lamp

DS-026 CIRCUIT



DS-322, 323 CIRCUIT

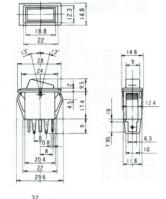


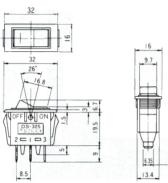
ROCKER SWITCHES

DS-324 W/L (with neon Lamp) W/O (without Lamp)

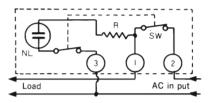


 $\begin{array}{c} \text{DS-325 W/L (with neon Lamp)} \\ \text{W/O (Without Lamp)} \end{array}$

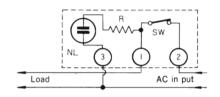




CIRCUIT DS-324 W/L



DS-325 W/L

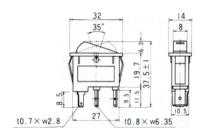


Recommended to use this switch with 75V \sim 125V. AC.

PARTS NO	CIRCUIT	FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
DS-324W/L DS-324W/O DS-325W/L DS-325W/O	SPST(2P)	ON-OFF	15A.125V.AC	DC.500V 100MΩ(MIN)	AC.1000V 1 Minute	DC.2.5V.1A 20mΩ(MAX)

DS-413 2P (with LED)

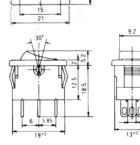




CIRCUIT	SPST (2P)
SWITCHING FUNCTION	ON-OFF
RATING	10A.125V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute
COLOR	Clearm(LED Color Red)

DS-850-LED (with LED) Case Color Black Gray LED Color Red, Green, Yellow





ABSOLU									
COLOR P(mW) IF(mA) IFM(mA) VR(V) Top.(°C) Ta									
Red	80		300		-30∼	−30~			
Yellow	100	40	100	4	-30∼ +85	+100			
Green	100		100		+65	+100			

ELECTRO	-OPTICAL	CHARAC	TERISTI	CS II	F = 20 mA.	$Ta = 25^{\circ}C$
COLOR	VF(Typ.)	IR(Max)	IR(Max) Cd(mcd)			Δλ(Typ.)
COLOR	(V)	(μA)	Min Typ.		(nm)	(nm)
Red	1.7	100	12	24	660	30
Yellow	2.1	100	10	15	570	30
Green	2.1	100	2	4	555	30

PARTS NO	CIRCUIT	FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
DS-850-LED	SPST(2P)	ON-OFF	5A.125V.AC 3A.250V.AC	DC.500V 100MΩ(MIN)	AC.1500V 1 Minute	DC.2.5V.1A 50mΩ(MAX)

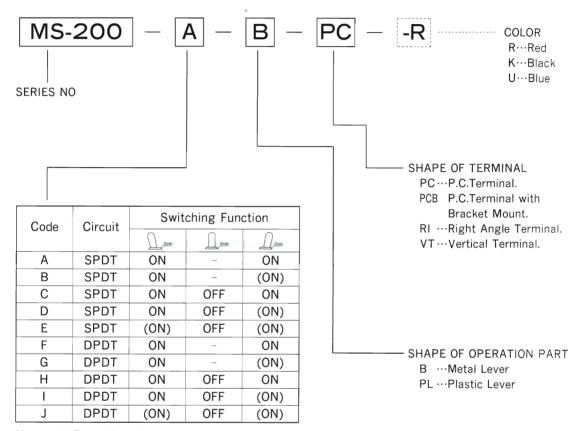
ULTRA MINIATURE(WATER PROOF, DUST PROOF)TOGGLE SWITCH

NEW MINI 200(MS-200) ULTRA MINIATURE TOGGLE SWITCHES

This product is Ultra Miniature Toggle Switch for instailling on P.C.board only. developed in conformity with performance and functional beauty, and provides various features as follows.

- ①Hight Reliability and Stability.
- 2 Improved Installing Efficiency.
- ③Full Cleaning: Water-resistant:Dust-proof
- ④ Enabing to make measures for Static Electricity.

MS-200 SERIES ORDERING INFORMATIONS



Note: () Parenthes is denotes momentary position.

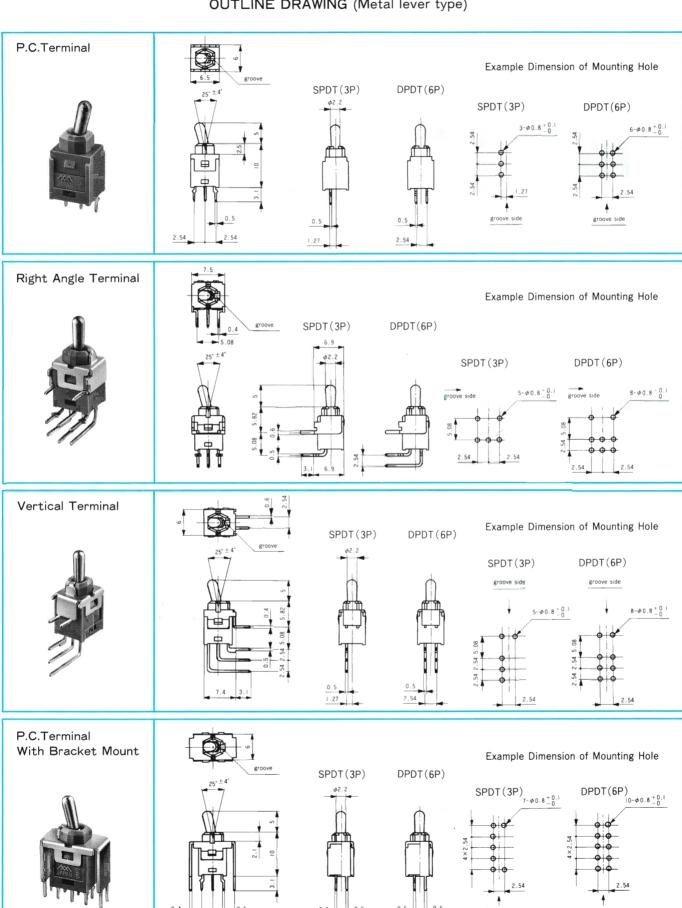
RATING OF PERFORMANCE

ITEMS	PERFORMANCE
Rating	0.4VA(Voltage 20mV~28mV, Current0.1mA~0.1A)
Contact Resistance	1mA, 0.1μ W. 50 m Ω (MAX)
Insulation Resistance	DC 500V 1000MΩ(MIN)
Voltage Breakdown	AC 500V (50/60Hz) 1Minute
Operating Life	100,000 Cycles (with load or without load)
Vibration Resistance	 ♦ Total width of vibtaiom 1.5mm ♦ Vibration frequency range10~55HZ ♦ Contact bounce 10µSec
Electrostatic Resistance	MAX 8KV (When bracket mount is not used)
Operating Temperature Range	$-20^{\circ}\!$
Preserving Temperature range	$-25^{\circ}\!$

ULTRA MINIATURE(WATER PROOF, DUST PROOF) TOGGLE SWITCH

MS-200 SERIES ULTRA MINIATURE TOGGLE SWITCHES

OUTLINE DRAWING (Metal lever type)



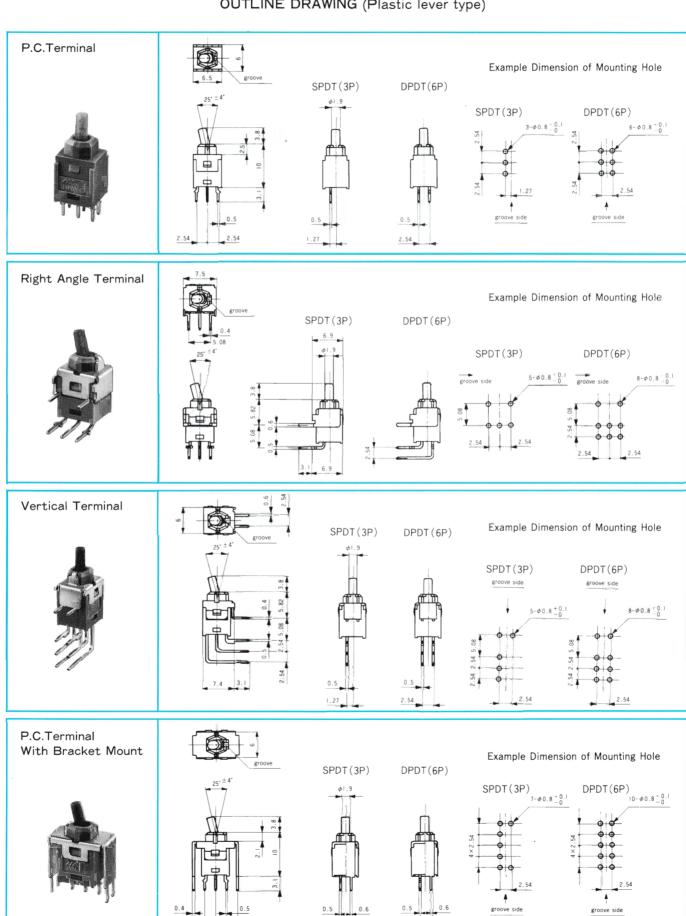
2.54

2.54

ULTRA MINIATURE(WATER PROOF, DUST PROOF)TOGGLE SWITCH

MS-200 SERIES ULTRA MINIATURE TOGGLE SWITCHES

OUTLINE DRAWING (Plastic lever type)



MINIATURE (WATER PROOF, DUST PROOF) PUSH BUTTON SWITCH

MS-650-651 SERIES PUSH-BUTTON SWITCHES

- *These series of product have 2 types Water Proof (P) for panel sealing and Non-Water Proof type (N) for general use.
- *The ratings are 3A. 125V. AC at MS-650 series and 0.4VA (20mV~28V, 0.1mA~50mA) at MS-651 series. Conductive part of MS-651 is finished with gold plate (with silver plate at MS-650).









ORDERING INFORMATION

 $\frac{\mathsf{MS-650}}{ \bigcirc{\hspace{-.07cm}\bigcirc}} \ - \ \stackrel{\mathsf{L}}{ \bigcirc{\hspace{-.07cm}\bigcirc}} \ - \ \stackrel{\mathsf{C}}{ \bigcirc{\hspace{-.07cm}\bigcirc}} \ - \ \stackrel{\mathsf{S}}{ \bigcirc{\hspace{-.07cm}\bigcirc}} \ - \ \stackrel{\mathsf{P}}{ \bigcirc{\hspace{-.07cm}\bigcirc}}$

③Shape of Push Button C·······With Circle Button N·······Without Button Shape of Terminal
 S......Solder Terminal
 P.....PC Terminal

①Series NO.

MS-650

MS-651

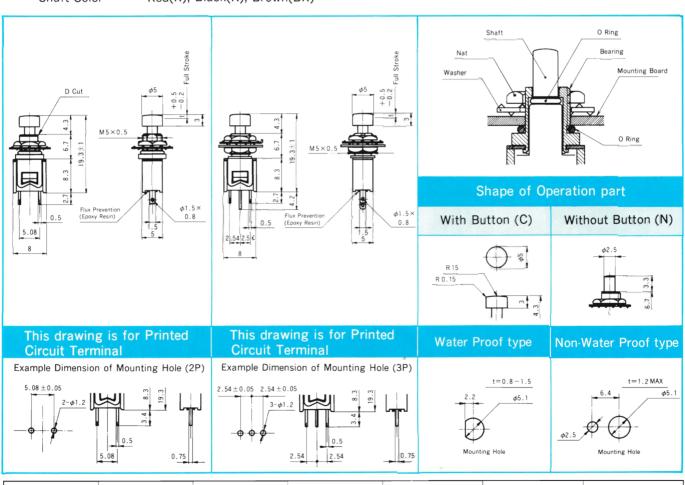
⑤Function
P......Water Proof
N.....Non-Water Proof

②Code of Switching Function

L·····OFF-(ON)Momentary

B.....ON-(ON)Momentay

NOTE:Button Color······Red(R), Black(K), Grey(N)
Shaft Color······Red(R), Black(K), Brown(BR)



PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	NSULATION RESISTANCE	VOTLAGE BREAKDOWN	CONTACT RESISTANCE
MS-650 L MS-650 B	SPST(2P) SPDT(3P)	OFF-(ON) ON-(ON) Momentary	3A.125V.AC	DC.500V	AC.1000V	DC 2.5V.1A 20mΩ(MAX)
MS-651 L MS-651 B	SPST(2P) SPDT(3P)	OFF-(ON) ON-(ON) Momentary	0.4VA	100MΩ(MIN)	1 Minute	1mA.0.1μW 50mΩ(MAX)

MS-820-SERIES DIP SLIDE SWITCH



MS-820-02TS MS-820-04TS MS-820-06TS

Waterproof type

MS-820-08TS

MS-820-020S,L

MS-820-060S,L type MS-820-080S,L

MS-820-040S,L Non-Waterproof

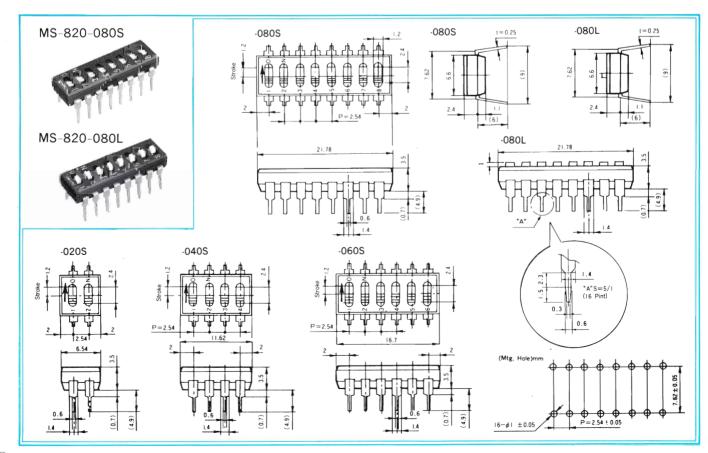
■ORDERING INFORMATION

MS - 820 - 02 T S

① No. of Circuits 02:2, 04:4, 06:6, 08:8

 $\textcircled{2} \ \ WaterProofTaping \qquad T\!=\!With \qquad 0\!=\!Without$

3 Actuator S=Short L=Long



MS-820 SERIES FEATURES

- 1) The contact has a self-cleaning mechanism and double contact formation is employed to ensure stable contact.
- 2) The series can be inserted by automatic inserting machine for IC to save
- 3) The actuator is designed to fit in the case to be sealed with tape for flux cleaning (for water-ploof type only).
- 4) The series is designed to make body as miniature as possible by decreasing 3.5mm in height and 6.6mm in width compared to conventional DIP

RATING	DC50V.100mA non-switching DC24V.25mA switching
INITIAL CONTACT RESISTANCE	50mΩ (AC 0.1mVIImA)
DIELECTRIC STRENGTH	500V.AC.1minute
INSULATION RESISTANCE	100V. DC 1000MΩ(MIN)
ELECTRICAL LIFE	5000
OPERATING FORCE	100~300gf
OPERATING TEMPERATURE RANGE	-20~+75°C
SOLDERING HEAT RESISTANCE	260°C±5°C 10 (sec) when installed on punted circuit board

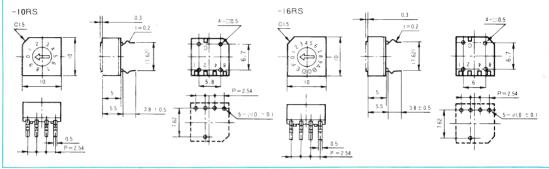
■MS-820 SERIES CIRCUIT CHART

PARTS NO	CIRCUIT	NO. OF POLE	PARTS NO	CIRCUIT	NO. OF POLE
MS-820-02 🗆	\$ \$ \$ 2\$	2	MS-820-06 🗆 🗆	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6
MS-820-04 🗆 🗆	\$ \$ \$ \$ \$	4	MS-820-08 🗆 🗆		8

MS-830-SERIES DIP ROTARY CODED SWITCH

MS-830-16RS





MS-830 SERIES-DIP rotary coded switch is developed for establishing of code under low current circuit (dry circuit) fot measuring apparatus, machine tool, ticket selling machine, communication machine, sound equipment, automat, office machine and computer, etc.

Following 4 Kinds are newly sold.

PARTS NO	CIRCUIT	CODE	COLOR CONTROL SHAFT
MS-830-10RS	Binary-coded decmal	Real	Red
MS-830-10CS	Binary-coded decmal	Complimentary	Light gray
MS-830-16RS	Binary-coded haxadecinormal	Real	Red
MS-830-16CS	Binary-coded haxadecinormal	Complimentary	Light gray

■Ordering Information

MS - 830 - 10 R S

① Showing Kind of step

10:10step 16:16step

② Showing Kind of code

C: Complimentary code R : Real code

3 Showing long or short of controntrol shaft

FEATURES

- 1) High-Density Installability
 - The series has miniature size (10mm×10mm×5.8mm) and is installable continuously on printed circuit board of IC pitch because the terminal pitch is common with IC (2.54mm pitch × 7.62mm). Therefore, if can be installed in high densely by combined use with other electronic circuit components for saving space and process.
- 2) Tight Structure
 - The terminal is molded precisely in the base board. The case and the base are fixed by ultrasonic wave, further, the operator is designed to fit in the case to be completely sealed with O ring for preventing of influxing and flux cleaning.
- 3) Improvement of Installing Efficiency
 - KINK processing is given on the terminal to prevent rising up at the time of DIP, thus improvement of working efficienncy is expected.
- 4) High-Reliability and High-Stability
 - As the contact is gold plated and has complete tight structure, it hes high contact reliability and futher solderaability is also stabilized by gold plating on the terminal.
- 5) Easy Findability of Indication of Kind
 - Since circuit stucture is indicated on operating position and kind of code by color of control shaft seperately, checking after installation can be easily

■ CODE FORMAT • Shows connection with terminal

DAD	TS NO	POSITION		CO	DE		DAD3	C NO	DOCUTION		CO	DE		
PAR	15 NU	POSITION	1	2	3	4	PARI	S NO	POSITION	1	2	CODE 2 3	4	
y code		0	•	•	•	•			0					
	9	1		•	•	•	1	. <u>a</u>	1	•				
ge	code	2	•		•	•	1	MS-830-10 Real code	2		•			
Complimentary coc	∑	3			•	•	1		3	•	•			
	MS-830-10 Complimentary	4	•	•		•	1		4			•		
nta	0.1 me	5		•		•	Real code		5	•		•		
шe	333 in	6	•			•			6		•	•		
를	MS-830- Complim	7				•			7	•	•	•		
DIO.	20	8	•	•	•			_a g	ž	8				•
O 9		9		•	•				9	•			•	
		Α	•		•		-16		Α		•		•	
30		В			•		08		В	•	•		•	
MS-830-1	Ī	С	•	•			MS-830-1		С			•	•	
Σ	Ī	D		•			Σ		D	•		•	•	
	Ī	E.	•				1		E		•	•	•	
	Ī	F					1		F	•	•	•	•	

■ SDECIFIC ATIONS

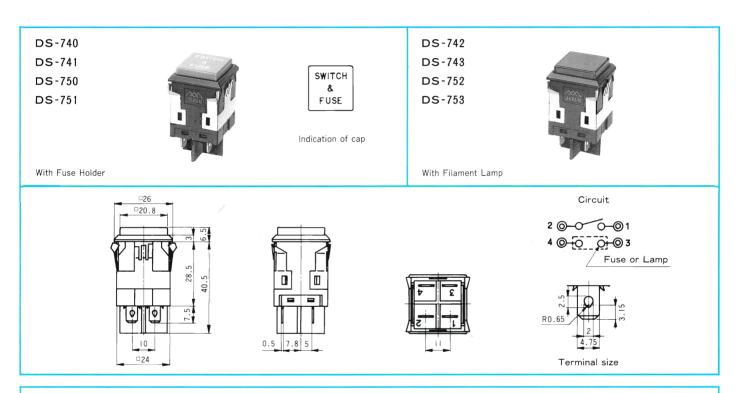
SPECIFICA	TIONS		
RATING	DC50V.100mA non-switching DC5V.100mA switching		
INITIAL CONTACT RESISTANE	100mΩ (AC 0.1mV, 1mA)		
DIELECTRIC STRENGTH	250V.AC.1MINUTE		
INSULATION RESISTANCE	100V.DC.1000MΩ (MIH)		
ELECTRICAL LIFE	10,000		
OPERATING TEMPARATURE RANGE	-20~+70°C		
SOLDERING HEAT REGISTANCE	260°C±5°C 10(sec) when installed on printed circuit board		

PUSH BUTTON SWITCHES with FUSE HOLDER or ILLUMINATION

DS-740.750 SERIES

- *This product is Large Square Push-button Switch lined up with 2 types, one storing Fuse Holder in the body and another having Illuminating function.
- *Fuse holder(suitable fuse tube: ϕ 5.2 × 20)can be picked up with taking out of cap from body. You can find method of 'taking out of fuse tube on the photo. Cap color is selectable among Red, Black, White, Yellow and Blue. (Fuse tube is optional)
- *Illumination type is provided with Filament Lamp of 6V,12V and 28V and cap colors are Clear Red,Clear Yellow,Clear Blue,Clear Green and Clear
- *Switch can be mounted easily with snap in system and it is designed for safety with prevention of removing. Standard suitable mounting panel thicknesses are 1,1.6 and 2_{mm} , and also acceptable to produce for such thicknesses of 1.2,1. 8 and 3_{mm} as special order.

Mounting Dimensions	Panel thicknesses
+0.1 □24.2 -0	1.0, 1.6, 2.0 Production by order 1.2, 1.8, 3.0



How to pick up Fuse Tube



- ①At the position when fuse tube is set in holder.
- $\ensuremath{ \mathbb{ D} }$ At the position when $\ensuremath{ \square }$ part is removed.
 - When terminal part is spread about $2 \sim 3 \, \text{mm}$ to direction marked \rightarrow . \square_1 is naturally removed.
- (3)At the position when terminals are returned to the inside.
 - When terminal part is returned to direction marked →, upper part of cover is opened about 3mm At the position when upper part of cover is held and spread.
- (♠)When upper part is held and spread to direction to marked →, and hold fuse tube,it can be removed.
- OHow to set fuse tube: You should set fuse tube to spring part either body or upper cover and thence fit body and cover tightly.

PARTS ON	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESESTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
DS-740 (With Fuse Holder) DS-742 (With Filament Lamp)		OFF-ON	3A.125V.AC		AC.2000V (50/60Hz) 1Minute	DC.2.5V,1A 20mΩ(MAX)
DS-750 (With Fuse Holder) DS-752 (With Filament Lamp)	SPST (2P)	OFF-(ON)		DC.500V		
DS-741 (With Fuse Holder) DS-743 (With Filament Lamp)	3531 (25)	OFF-ON		100MΩ(MIN)		
DS-751 (With Fuse Holder) DS-753 (With Filament Lamp)		OFF-(ON)				

KEY LOCK SWITCHES

This is compact and high reliable key lock switch with compound mechanism of both lock and switch ,which is requested for security control of various automated equipments .

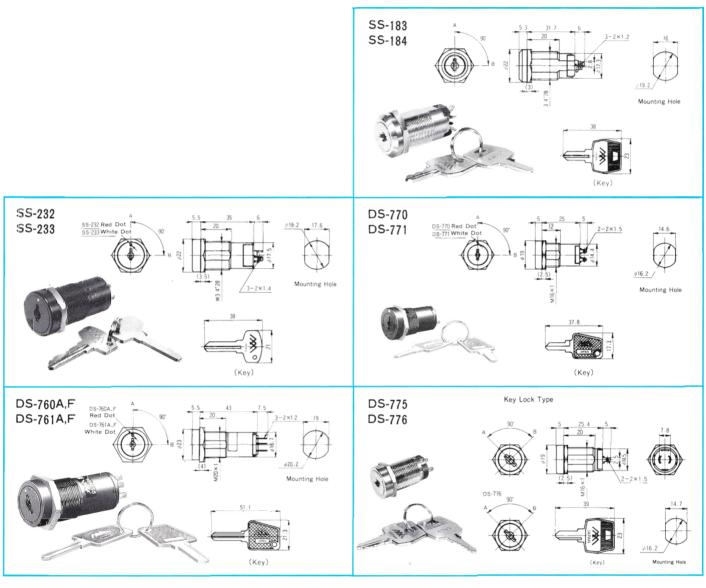
SS—183,—232. DS—760A,—760F,—770,—775.

Key removable in OFF(A) position only.(ON(B) position Lock Key Type)

(Key switch with same key No.is also available.)

SS—184,—233. DS—761A,—761F,—771,—776. Key removable both in OFF and ON("A"&"B")position (Key switch with same key No.is also available.)

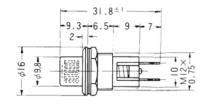
DS—775,—776 SERIES by employing reversible key, you may be free from complicated operation of key to see its above or below.



PARTS NO	CIRCUIT	SWITCHING FUNCTION	RATING	INSULATION RESISTANCE	VOLTAGE BREAKDOWN	CONTACT RESISTANCE
SS-183~4	SPDT(3P)	ON-ON	5A.125V.AC	DC.500V 1 00MΩ(MIN)	AC1000V 1 Minute	DC.2.5V.1 A 20mΩ(MAX)
SS-232~3	3FD1(3F)	OIN-OIN	1A.125V.AC			
DS-760A	SPDT(3P)		-	DC.500V 1 00MΩ(MIN)	AC.1500V 1 Minute	DC.2.5V.1A 30mΩ(MAX)
DS-760F	OF DPDT(6P)	ON-ON	3A.125V.AC 1A.250V.AC			
DS-761A	SPDT(3P)					
DS-761F	DPDT(6P)					
DS-770	SPST(2P)	ON-OFF	3A.125V.AC	DC.500V	AC.1500V	DC.2.5V.1A
DS-771	3P31(2P)	OIN-OFF	1 A.250V.AC	1 OOMΩ(MIN)	1 Minute	20m $Ω(MAX)$
DS-775	SDST(2D)	ON-OFF	3A.125V.AC	DC.500V	AC.1500V 1 Minute	DC.2.5V.1 A 20mΩ(MAX)
DS-776	SPST(2P)	OIN-OFF	1 A.250V.AC	1 OOMΩ(MIN)		

MP-007 (without Lamp)





RATING	2 W(MAX)
LAMP BASE	E-5/8 (incandescent 6.3V Lamp)
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.500V.1Minute

CAP MATERIAL	PC Resin
COLOR	Red, White, Clear Blue, Yellow, Clear Green Clear Red, Clear Amber, Clear

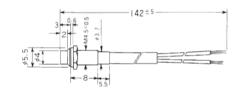
Mounting Hole ϕ 12.3

MP-036



Mounting Hole $\phi 4.7$

Production by Order



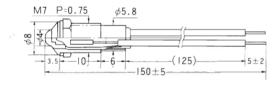
RATING	AC.100V (With Resistor)
LAMP BASE	With Neon Lamp
INSULATION RESISTANCE	DC.500V.10M Ω (MIN)
VOLTAGE BREAKDOWN	AC.1000V.1Minute

CAP MATERIAL Acrylic Resin		Acrylic Resin
COL	OR	Clear, Clear Red

MP-030



Mounting Hole ϕ 7.2



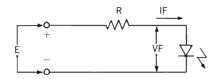
RATING	-	
LAMP BASE	With Neon Lamp	
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)	
VOLTAGE BREAKDOWN	AC.1000V.1Minute	

CAP MATERIAL	Acrylic Resin
COLOR	Tip Top Color (Clear)

We introduce our LED series with more than 30 models, having various ideal characters as indicating illuminators such as stable emitting, half-permanent life and small consumption of electric power which are peculiar to emitted diode. In addition to mere indicating function, they also give high class feeling to panel and provide additional value to equipment.

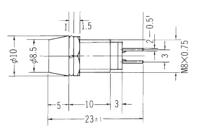
Further, considerations to keep clear glittering are spread over everywhere from cap to tip of terminal on both design and practical use. You may be surely able to choose model just fits to your product among abundant ones. For electric power source exceeding maximum rate of forward voltage, you should control to suitable current (IF) for each product with inserting resistance to circuit.

Please refer to circuit diagram and calculation method of resistance rate as basic ones.



$$R = \frac{E - VF}{IF}$$

MP-040 (Red) MP-042 (Green)



ABSOLUTE MAXIMUM RATINGS

Ta = 25°C

COLOR	IF (mA)	VR(V)	P (mW)	Top.(°C)	Tstg (°C)
Red	30	4	75	_20~	−30~
Yellow				+75	+85
Green	50	4	125	+/3	+65

ELECTRO-OPTICAL CHARACTERISTICS

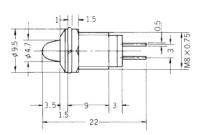
IF = 10mA Ta = 25°C

COLOR	VF (V)		IR (μA)	Cd (mcd)		λΡ (nm)	Δλ (nm)
552511	Тур	Max	VR=4V	Min	Тур	(Typ.)	(Typ.)
Red	2.1	2.5	100	4	8	700	100
Yellow							
Green	2.1	2.5	100	8	16	555	30

Mounting Hole ϕ 8.2

MP-041 (Red) MP-043 (Green)





ABSOLUTE MAXIMUM RATINGS

Ta=25°C

COLO	R IF (mA)	VR(V)	P (mW)	Top.(°C)	Tstg (°C)
Red	30	4	75	-20~	−30~
Yellow				+75	+85
Green	50	4	125	+/5	+65

ELECTRO-OPTICAL CHARACTERISTICS

IF= mA Ta=25°C

COLOR	VF (V)		IR (μA)	Cd (mcd)		λΡ (nm)	Δλ (nm)
	Тур	Max	VR= V	Min	Тур	(Typ.)	(Typ.)
Red	2.1	2.5	100	4	8	700	100
Yellow							
Green	2.1	2.5	100	8	16	555	30

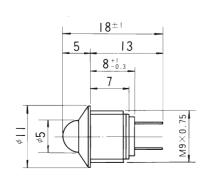
Mounting Hole ϕ 8.2

MP-050 (Red) (Black Mould)

MP-052 (Green)
(Black Mould)



MP-054 (Red)
MP-056 (Green)
(Metal Plated)
Mounting Hole φ 9.2



ABSOLUTE MAXIMUM RATINGS

 $Ta = 25^{\circ}C$

COLOR	IF (mA)	VR(V)	P (mW)	Top.(°C)	Tstg (°C)
Red	30	4	75	-20~	−30~
Yellow				+50	-30∼ +85
Green	50	4	125	+ 50	+65

ELECTRO-OPTICAL CHARACTERISTICS

IF = 10mA Ta = 25°C

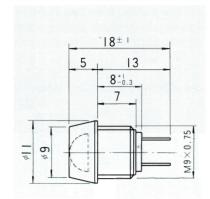
COLOR	VF (V)		IR (μA)	Cd (mcd)		λP (nm)	Δλ (nm)
	Тур	Max	VR= V	Min	Тур	(Typ.)	(Typ.)
Red	2.1	2.5	100	3	6	700	100
Yellow							
Green	2.1	2.5	100	12	24	565	30

MP-051 (Red) MP-053 (Green) (Black Mould)



MP-055 (Red) MP-057 (Green) (Metal Plated)

Mounting Hole ϕ 9.2



ABSOLUTE MAXIMUM RATINGS

Ta=25°C

COLOR	IF (mA)	VR(V)	P (mW)	Top.(°C)	Tstg (°C)	
Red	30	4	75	−20~	−30~	
Yellow				+50	−30∼ +85	
Green	50	4	125	+50	+85	

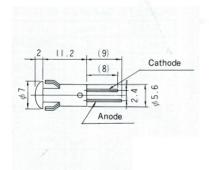
ELECTRO-OPTICAL CHARACTERISTICS

IF = 10mA Ta = 25°C

COLOR	VF (V)		IR (μA)	Cd (mcd)		λΡ (nm)	Δλ (nm)
	Тур	Max	VR=5V	Min	Тур	(Typ.)	(Typ.)
Red	2.1	2.5	100	3	6	700	100
Yellow							
Green	2.1	2.5	100	1.2	2.4	565	30

MP-058 (Red)





ABSOLUTE MAXIMUM RATINGS

Ta = 25°C

COLOR	IF (mA) VR(V) P (mW)		Top.(°C)	Tstg (°C)	
Red	40	4	80	−20~	−25~
Yellow				+55	
Green				+55	+100

ELECTRO-OPTICAL CHARACTERISTICS

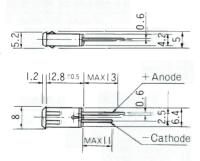
IF=20mA Ta=25°C

COLOR	VF (V)		IR (μA)	Cd (mcd)		λΡ (nm)	Δλ (nm)
	Тур	Max	VR=3V	Min	Тур	(Typ.)	(Typ.)
Red	1.67	1.9	100	0.5	2.1	655	20
Yellow							
Green							

Mounting Hole ϕ 6

MP-059 (Red) MP-060 (Green)





ABSOLUTE MAXIMUM RATINGS

Ta = 25°C

COLOR	IF (mA)	VR(V)	P (mW)	Top.(°C)	Tstg (°C)
Red	30	4	75	−20~	−25~
Yellow		_		+55	+75 +75
Green	50	4	125	+55	+75

ELECTRO-OPTICAL CHARACTERISTICS

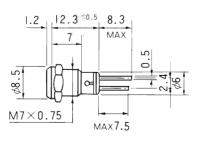
IF = 10mA Ta = 25°C

COLOR	VF (V)		IR (μA)	Cd (mcd)		λΡ (nm)	Δλ (nm)
COLOR	Тур	Max	VR=4V	Min	Тур	(Typ.)	(Typ.)
Red	2.1	2.5	100	0.4	0.8	700	100
Yellow							
Green	2.1	2.5	100	2	4	565	30

Mounting Hole ϕ 6

MP-062 (Red) MP-063 (Green)





ABSOLUTE MAXIMUM RATINGS

 $Ta = 25^{\circ}C$

COLOR	IF (mA)	VR(V)	P (mW)	Top.(°C)	Tstg (°C)
Red	40	5	80	−20~	−25~
Yellow				+55	−25∼ +75
Green	30	5	85	+55	+/5

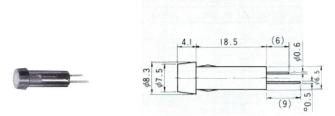
ELECTRO-OPTICAL CHARACTERISTICS

 $IF = 20mA Ta = 25^{\circ}C$

COLOR	,	VF (V)		IR (μA)	Cd (mcd)		λΡ (nm)	Δλ (nm)
COLO	`	Тур	Max	VR=4V	Min	Тур	(Typ.)	(Typ.)
Red		1.67	1.9	10 ·	0.5	2.1	655	20
Yellow				-				
Green		2.0	2.8	10	0.45	1.4	555	25

Mounting Hole ϕ 7.2

MP-068 (Red) MP-069 (Green)



ABSOLUTE MAXIMUM RATINGS

Ta = 25°C

COLOR	IF (mA)	VR(V)	P (mW)	Top.(°C)	Tstg (°C)
Red	40	4	80	−10~	−25~
Yellow				+55	+70
Green	30	5	85	+ 55	+70

ELECTRO-OPTICAL CHARACTERISTICS

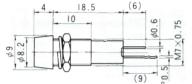
 $IF = 20mA Ta = 25^{\circ}C$

COLOR	VF (V)		IR (μA)	Cd (mcd)		λΡ (nm)	Δλ (nm)
COLOR	Тур	Max	VR=4V	Min	Тур	(Typ.)	(Typ.)
Red	1.67	1.9	10	0.5	2.1	655	20
Yellow							
Green	2.0	2.8	10	0.45	1.4	555	25

DC 12V (With Resistor) $560\Omega \frac{1}{4}W$

MP-070 (Red) MP-071 (Green)





ABSOLUTE MAXIMUM RATINGS

 $Ta = 25^{\circ}C$

COLOR	IF (mA)	VR(V)	P (mW)	Top.(°C)	Tstg (°C)
Red	40	5	80	−10~	−25~
Yellow				+55	+70
Green	30	5	85	+ 33	+70

ELECTRO-OPTICAL CHARACTERISTICS

IF = 20mA Ta = 25°C

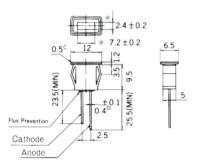
COLOR	VF (V)		IR (μA)	Cd (mcd)		λP (nm)	Δλ (nm)
COLOR	Тур	Max	VR=3V	Min	Тур	(Typ.)	(Typ.)
Red	1.67	1.9	10	0.5	2.1	655	20
Yellow							
Green	2.0	2.8	10	0.45	1.4	555	25

Mounting Hole $\phi 7.2$ DC 12V (With Resistor) 560 $\Omega \frac{1}{4}$ W

MP-072 (Red)

MP-073 (Green)
MP-074 (Yellow)





ABSOLUTE MAXIMUM RATINGS

Ta = 25°C

COLOR	IF (mA)	VR(V)	P (mW)	Top.(°C)	Tstg (°C)
Red	30	4	75	−10~	-10∼
Yellow	50	4	125	−10~ +50	+70
Green	50	4	125	+50	+70

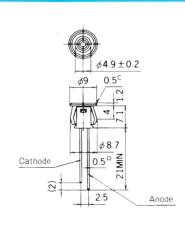
ELECTRO-OPTICAL CHARACTERISTICS

 $IF = 10mA Ta = 25^{\circ}C$

COLOR	VF (V)		IR (μA)	Cd (mcd)		λΡ (nm)	Δλ (nm)
	Тур	Max	VR=4V	Min	Тур	(Typ.)	(Тур.)
Red	2.1	2.5	100	0.3	0.5	700	100
Yellow	2.1	2.5	100	2	4	570	30
Green	2.1	2.5	100	1.5	3	565	30

MP-075 (Red)
MP-076 (Green)
MP-077 (Yeoolw)





ABSOLUTE MAXIMUM RATINGS

Ta = 25°C

COLOR	IF (mA)	VR(V)	P (mW)	Top.(°C)	Tstg (°C)
Red	25	4	70	−10~	−10~
Yellow	25	4	70	+50	−10~ +60
Green	25	4	70	+ 50	+60

ELECTRO-OPTICAL CHARACTERISTICS

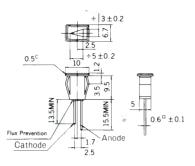
 $IF = 15 \text{ mA } Ta = 25^{\circ}C$

ELECTRIC C. Horiz C. Marie C.									
COLOR	VF (V)		IR (µA)	Cd (mcd)		λΡ (nm)	Δλ (nm)		
COLOR	Тур	Max	VR=4V	Min	Тур	(Typ.)	(Typ.)		
Red	2.1	2.8	5	0.5	1.5	700	100		
Yellow	2.1	2.8	100	0.8	4.5	586	32		
Green	2.1	2.8	5	1.4	5	565	25		

MP-078 (Red) MP-079 (Green)

MP-080 (Yellow)





ABSOLUTE MAXIMUM RATINGS

 $Ta = 25^{\circ}C$

COLOR	IF (mA)	VR(V)	P (mW)	Top.(°C)	Tstg (°C)
Red	30	4	75	−10~	-10∼
Yellow	50	4	125	+50	+70
Green	50	4	125	+ 50	+70

ELECTRO-OPTICAL CHARACTERISTICS

 $IF\!=\!10mA~Ta\!=\!25^{\circ}\!C$

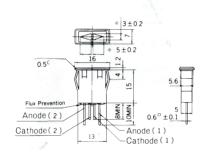
COLOR	VF (V)		IR (μA)	Cd (mcd)		λΡ (nm)	Δλ (nm)
COLOR	Тур	Max	VR=4V	Min	Тур	(Typ.)	(Typ.)
Red	2.1	2.5	100	0.3	0.5	700	100
Yellow	2.1	2.5	100	2	4	570	30
Green	2.1	2.5	100	1.5	3	565	30

MP-081 (Red)

MP-082 (Green)

MP-083 (Yellow)





ABSOLUTE MAXIMUM RATINGS

Ta = 25°C

COLOR	DR IF (mA) VR(V) P (mW)		P (mW)	Top.(°C)	Tstg (°C)
Red	30	4	75	- 10∼	−10~
Yellow	50	4	125	+50	
Green	50	4	125	+50	+70

ELECTRO-OPTICAL CHARACTERISTICS

IF=10mA Ta=25°C

COLOR	VF (V)		IR (μA)	Cd (mcd)		λΡ (nm)	Δλ (nm)
COLOR	Тур	Max	VR=4V	Min	Тур	(Typ.)	(Typ.)
Red	2.1	2.5	100	0.3	0.5	700	100
Yellow	2.1	2.5	100	2	4	570	30
Green	2.1	2.5	100	1.5	3	565	30

MECHANICAL COMPONENT PARTS

TEST CLIPS

Phosphor bronze conductor with nylon insulator, for quick and easy small size test connections.

MJ-001



RATING	1A.125V.AC
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1500V.1Minute
COLOR	Red,Black,White,Yellow,Blue,Green
MATERIAL	Nylon

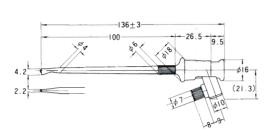
TEST CLIPS

FEATURES:

- 1. Simple operation for connecting test by one touch installation of slotted Banana Plug (MJ-014) with lead wire into the hole (Jack) of IC Clip.
- 2.In case of direct installation of the lead wire. No soldering is required for screw.

MJ-018

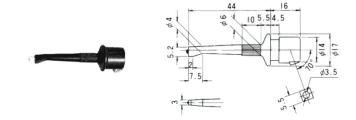






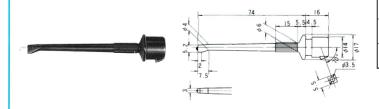
RATING	1A.125V.AC
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1500V.1Minute
COLOR	Red,Black
MATERIAL	ABS Resin

MJ-019



RATING	1A.125V.AC
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1500V.1Minute
COLOR	Red,Black
MATERIAL	ABS Resin

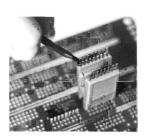
MJ-020



RATING	1A.125V.AC
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1500V.1Minute
COLOR	Red,Black
MATERIAL	ABS Resin

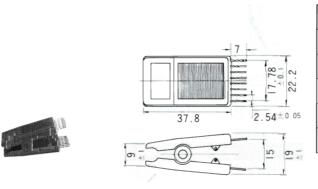
TEST CLIPS

MJ-026 DIP IC TEST CLIP (16PINS)



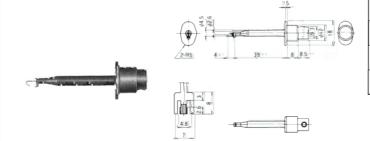
Operation check for IC circuits can be simply tested by this new DIP IC test clip. after clip IC circuits (either 16 pins or 14 pins) by this MJ-026 test clip, check the top of pin by our IC clip (MJ-001, 018, 019, 020) which is connected with the meter (such as oscilloscope) and can be clearly confirmed with circuit status.

Applicable to DIP type IC such as dual in line type, TTL, DTL, GATE, or Shift Register, Flip Flop, Counter, Decorder, etc.

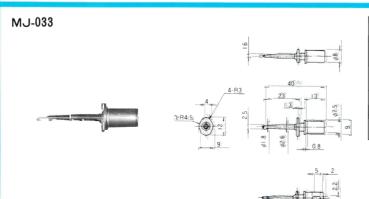


RATING	300mA.30V.AC
CONTACT RESISTANCE	50mΩ(MAX)
INSULATION RESISTANCE	DC.500V.AC.100MΩ(MIN)
VOLTAGE BREAKDOWN	500V.AC.1Minute
COLOR	Blue
MATERIAL	Gold Plated





RATING	1A.125V.AC
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.1500V.1Minute
COLOR	Red,Black,White,Yellow,Blue,Green
MATERIAL	ABS Resin

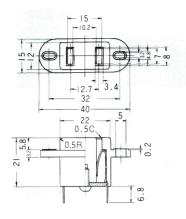


RATING	0.3A.50V.AC
INSULATION RESISTANCE	DC.500V.100MΩ(MIN)
VOLTAGE BREAKDOWN	AC.500V.1Minute
COLOR	Red,Black,White,Yellow,Blue,Green
MATERIAL	ABS Resin

AC OUTLETS

MC-011

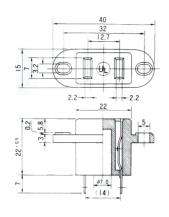




RATING	15A.125V.AC
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute
HOLD TORQUE	1∼6Kgf

MC-036

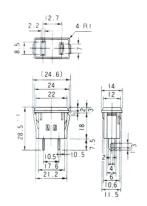




RATING	15A.125V.AC
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute
HOLD, TORQUE	1∼6Kgf

MC-037



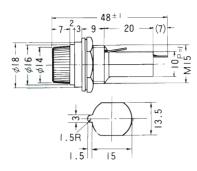


RATING	15A.125V.AC
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1000V. 1Minute
HOLD TORQUE	1,36~6Kgf
COLOR	Black, White

FUSE HOLDERS

MF-007 **CAT.NO.007**





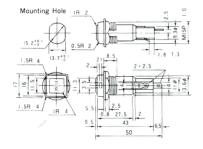
RATING	10A.250V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1500V. 1Minute
FUSE SIZE	$\phi 6.35 \pm 0.15 \times 31.8 \text{m/m} \pm 0.8 \text{m/m}$

UL & CSA Recognized

Mounting Hole

MF-008 **CAT.NO.008**





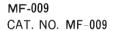
Cap is removed by depressing release at top of holder.



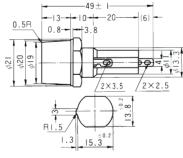
Cap colors: red, black, white, blue, yellow.

RATING	6A.250V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 1500V. 1Minute
FUSE SIZE	$\phi 6.35 \!\pm\! 0.15 \! imes \! 31.8 \text{m/m} \!\pm\! 0.8 \text{m/m}$

UL & CSA Recognized







UL & CSA Recognized Mounting Hole

RATING	10A.250V.AC
CONTACT RESISTANCE	20mΩ(MAX)
INSULATION RESISTANCE	DC. 500V. 100MΩ(MIN)
VOLTAGE BREAKDOWN	AC. 2000V. 1Minute
FUSE SIZE	ϕ 6.35 \pm 0.15 $ imes$ 31.8m/m \pm 0.8m/m

- The specifications provided in this catalog are just for your reference. Please requet us offical approved drawing prior to operation.
- The appearance and specifications of the product may be modified without prior notice for improving of performance.

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